



## COURSE DATA

### DATA SUBJECT

**Code:** 34073  
**Name:** Documentation and Scientific Methodology  
**Cycle:** Undergraduate Studies  
**ECTS Credits:** 4.5  
**Academic year:** 2025-26

### STUDY (S)

Degree	Center	Acad. year	Period
1201 - Degree in Pharmacy	Facultat de Farmàcia i Ciències de L'alimentació	1	First quarter
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	Facultat de Farmàcia i Ciències de L'alimentació	1	First quarter

### SUBJECT-MATTER

Degree	Subject-matter	Character
1201 - Degree in Pharmacy	Scientific methodology and documentation	COMPULSORY
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	Asignaturas obligatorias del PDG Farmacia-Nutrición Humana y Dietética	COMPULSORY

### COORDINATION

LUCAS DOMINGUEZ RUTH

## SUMMARY

What is usually called "scientific method" is a set of theoretical and experimental practices very diverse characteristics vary over time and space and across disciplines and various fields of science. Even within a single scientific discipline, there are diverse views on the best ways to get sufficiently used to produce new knowledge. Therefore, in this block use the expression "scientific methodology" to refer to the heterogeneous set of strategies, procedures, reasoning, experimental practices, observational methods, etc. following scientists in their investigations, which are developed in a variety of places (observatories, laboratories, geological sites, hospitals, factories, etc..), often with the help of scientific instruments of very different characteristics. And all this in the context of certain societies and cultures very variable condition of the development of scientific activity over time.

In parallel to the great development and has taken on dimensions that modern science during the twentieth century, the discipline of information science has developed a range instruments for recording scientific production and facilitate rapid access to accurate information. Likewise, the large expansion that has seen



the Internet as a communication and dissemination of information made available to researchers and users a lot of resources and information sources, regardless of spatial boundaries and intermediaries, so is essential from the field of training to introduce students to the knowledge and use of these tools and resources to be able to develop the skills to locate and manage the information they need or may be of interest to the exercise in their professional and research activities.

The aim of the course is to provide basic concepts and schemes to address the issue through various special cases (seminars). First, we discuss several specific topics, closely related to the pharmacy: anatomical dissection, animal experimentation and clinical trials. It is also dedicated to a specific scientific terminology along with a brief introduction to the various types of scientific instruments.

The School of Pharmacy is a pilot center of the University of Valencia for the implementation of the Sustainable Development Goals (SDG). From the Scientific Documentation and Methodology subject, we propose to incorporate the SDGs by integrating these contents into our agenda and evaluation activities. Open access to information is fundamental in any of the 17 SDGs proposed for the 2030 Agenda and especially aimed at SDGs 3 and 5 (Health and Education) in which our students and future pharmaceutical graduates would be more involved. In parallel, it is essential to offer a historical vision about the relevance of the development of the SDGs in all processes related to the creation, production, distribution and access to medicines, closely linked to one of these objectives, specifically 3 (Health & Wellness). Also the current health situation and the controversies around vaccines - research, collaboration, patents, accessibility around the world ... - deserve a reflection that connects with this subject.

## PREVIOUS KNOWLEDGE

### RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

### OTHER REQUIREMENTS

Previous requirements or recommendations

Being an introductory course, no prerequisites are required apart from skills and knowledge provided by high school studies. However, it should be noted that the theoretical and practical seminars involve the use of a great deal of abstract thinking, adoption of a diachronic analysis and dealing with various societies and cultures.

## COMPETENCES / LEARNING OUTCOMES

-

Act with autonomy in learning, making informed decisions in different contexts, issuing judgements based on experimentation and analysis, and transferring knowledge to new situations.

Collaborate effectively in work teams, assuming responsibilities and leadership roles and contributing to



collective improvement and development.

Contribute to the design, development and implementation of solutions that respond to social demands, taking into account the Sustainable Development Goals as a reference.

Demonstrate critical and self-critical thinking in the field of the degree programme, considering aspects such as professional ethics, moral values and the social implications of the different activities carried out.

Develop skills to update knowledge and undertake further studies, including pharmaceutical specialisation, scientific research, technological development and teaching.

Gather and transmit information in English at a level of proficiency equivalent to B1 of the Council of Europe.

Know and understand, within the field of the degree programme, gender inequalities in society; integrate different needs and preferences based on sex and gender into the design of solutions and problem solving.

Know how to communicate effectively, both orally and in writing, adapting to the characteristics of the situation and the audience.

Module: Legislation and Social Pharmacy. Know the scientific principles and methodology applied to pharmaceutical sciences, including the history and social function of Pharmacy.

Module: Legislation and Social Pharmacy. Learn oral and written communication techniques and acquire the skills to inform users of pharmaceutical establishments in terms that are intelligible and appropriate to different cultural levels and social environ

Module: Legislation and Social Pharmacy. Master information retrieval techniques relating to primary and secondary information sources (including databases using computers).

Propose creative and innovative solutions to complex situations or problems within the field of knowledge, to respond to diverse professional and social needs.

Show skills in accessing and interpreting information sources.

## DESCRIPTION OF CONTENTS

### 1. Introducing Documentation and Scientific Methodology

### 2. The methods of Science

### 3. Science in movement: scientific revolutions



**4. Science frontiers and the other ways of knowledge**

**5. The social construction of illness**

**6. The social life of medicines**

**7. The language of Science**

**8. The Scientific communication**

**9. Discipline and profession**

**10. Health Sciences and Gender**

**11. The consciousness of Science: Bioethics**

**12. A necessary evil: experimenting on animals**

**13. Testing therapies in humans: clinical trials**

**14. Evidence-Based Medicine**



**15. Science, Medicine, and Technology**

**16. The pharmaceutical industry**

**17. Intellectual property: patents**

**18. Needs and uses of information in Pharmacy**

**19. Primary sources of scientific information in Pharmacy**

**20. Bibliographic searches in Pharmacy**

- Design of search strategies
- Searches in Health Sciences specific databases: Pubmed and Embase
- Searches in multidisciplinary databases: Web of Science and Scopus

**21. Secondary sources of scientific information in Pharmacy: databases**

**22. Citations, impact and how to manage information in Pharmacy**

**WORKLOAD**

**PRESENCIAL ACTIVITIES**

Activity	Hours
Tutorials	2,00
Theory	28,00
Seminar	10,00
Computer classroom practice	5,00
<b>Total hours</b>	<b>45,00</b>

**NON PRESENCIAL ACTIVITIES**

Activity	Hours
Attendance at other activities	0,00
Individual or group project	30,00
Independent study and work	10,50
Preparation of lessons	2,00
Preparation for assessment activities	25,00
Resolution of case studies	0,00
<b>Total hours</b>	<b>67,50</b>

**TEACHING METHODOLOGY**

La información está en un formato que no se puede convertir

**EVALUATION****FIRST CALL**

**Continuous evaluation:** up to 5 points out of 10 of the final grade. Evaluable activities: Computer practices (20%); Seminars (20%); Tutorials (10%). A 5 out of 10 is required in the final mark of continuous evaluation to make an average with the mark of the first call exam.

**First Call Exam:** up to 5 points out of 10 of the final grade. The exam of the Scientific Methodology block (35%) consists of a long question, the comment of an image, the comment of a fragment of a text and multiple-choice questions. The Documentation exam (15%) will consist of 14 multiple choice questions.

In the exam, a grade equal to or greater than 4 out of 10 is required to make an average with the grades obtained from the continuous evaluation.

A failure in the first call, as well as a "Not presented" in the exam, implies taking the second call exam that includes the contents of theoretical and practical teaching. Practical activities will be kept for one academic year

**SECOND CALL**

**Second Call Exam:** Theoretical exam (50%); Practical exam (50%). A grade lower than 4 out of 10 in any of the two parts will mean a failing grade in the subject.



The continuous assessment activities, which in this subject are practices, tutorials and seminars, are of MANDATORY ATTENDANCE and, therefore, NOT RECOVERABLE, in accordance with the provisions of article 6.5 of the Regulation of Evaluation and Qualification of the UV for Bachelor and Master degrees. If, for justified reasons, it is not possible to attend any of these activities, it must be communicated sufficiently in advance. In this way, the person in charge of the subject may assign the student a session in another group.

Evidence of copying or plagiarism in any of the assessable tasks will result in failure to pass the subject and in appropriate disciplinary action being taken. Please note that, in accordance with article 13. d) of the Statute of the University Student (RD 1791/2010, of 30 December), it is the duty of students to refrain from using or participating in dishonest means in assessment tests, assignments or university official documents.

In the event of fraudulent practices, the "**Action Protocol for fraudulent practices at the University of Valencia**" will be applied (ACGUV 123/2020): <https://www.uv.es/sgeneral/Protocols/C83sp.pdf>

## REFERENCES

- Informe APEI sobre acceso abierto | E-LIS. E-prints in Library and Information Science Disponible en: <http://eprints.rclis.org/handle/10760/12507>. Fecha de acceso 5/31/2011, 2011.
- Ferragud C, Vidal A, Bertomeu JR, Lucas R. Documentación y metodología en ciencias de la salud. Valencia: Nau Llibres; 2017.
- Ferran Ferrer N, Pérez-Montoro Gutiérrez M. Búsqueda y recuperación de la información. 1ª en lengua castellana ed. Barcelona: Editorial UOC; 2009
- Fara P. Breve historia de la ciencia. Barcelona: Ariel; 2009.
- Bowler P, Morus I. Panorama general de la ciencia moderna. Barcelona: Crítica; 2007
- Collins H et al. El gólem: lo que todos deberíamos saber acerca de la ciencia. Barcelona: Crítica; 1996
- Cordon García JA, López Lucas J, Vaquero Pulido JR. Manual de investigación bibliográfica y documental: teoría y práctica. Madrid: Pirámide; 2001.
- Cordon García JA, López Lucas J, Vaquero Pulido JR. Manual de búsqueda documental y práctica bibliográfica. Madrid: Pirámide; 1999



- Hernández Sampieri R, Fernández Collado C, Baptista Lucio P. Metodología de la investigación. 5a ed. Madrid: McGraw-Hill; 2010
- Jiménez Villa J, Argimón Pallás JM, Martín Zurro A. Publicación científica biomédica: cómo escribir y publicar un artículo de investigación. Barcelona: Elsevier Science; 2010
- Pinto Molina M, Mitre M, Doucet A, Sánchez MJ. Aprendiendo a resumir: prontuario y resolución de casos. Gijón: Trea; 2005
- Cordón García JA. Las nuevas fuentes de información: información y búsqueda documental en el contexto de la web 2.0. Madrid: Pirámide; 2010.