COURSE DATA

DATA SUBJECT

Code: 33028
Name: Research methodology in health sciences
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1202 - Degree in Physiotherapy	Facultat de Fisioteràpia	3	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1202 - Degree in Physiotherapy	Introduction to clinical research and documentation	COMPULSORY

COORDINATION

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SUMMARY

The course Methodology of Research in Health Sciences aims to introduce students to the principles of scientific research. Also it aims to introduce students to the main tools used to develop different types of research design and implementing critical assesment and use of research on the context of evidence-based physiotherapy.

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PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

It is not necessary previous requirements.

COMPETENCES / LEARNING OUTCOMES

1202 - Degree in Physiotherapy

Acquire knowledge related to the information and communication technologies.

Establish evidence-based physiotherapy protocols and promote professional activities that facilitate physiotherapy research.

Have the ability to organise and plan work.

Know how to carry out a bibliographical search.

Know how to critically read scientific papers.

Know how to incorporate scientific research and evidence-based practice as a professional culture.

Know the principles of scientific research and the different types of studies and research designs.

Know the theories about problem solving and critical reasoning.

Respect fundamental rights and equality between men and women.

Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.

Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.

Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.

Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

Work in teams.

DESCRIPTION OF CONTENTS

1.1. Foundations of scientific research.
1.2. Research architecture.

1. General Principles of the investigation in Health Sciences

1.1. Foundations of scientific research.
1.3. Methodological Bases of research.

2. Physical therapy based on the evidence

2.1. Introduction and Concept.
2.2. Steps and tools necessary.
2.3. Barriers to the practice of EBP.

3. Epidemiological concepts

3.1. General Issues.
3.2. Frequency measurements.
3.3. Association measurements.
3.4. Bias and confounders variables.

4. Study design

4.1. Introduction to research designs.
4.2. Types and Classification of the most used designs in research.
4.3. Advantages and limitations of the studies.

5. Research protocol

5.1. Introduction.
5.2. Conceptual Frame.
5.3. Objective of the study and hypothesis.
5.4. Design.
5.5. Study population.
5.6. Sampling. Advantages. Planning of sampling. Sampling techniques.
5.7. Variables. Selection of variables. Definition of variables.
5.8. Measuring Instruments.
5.9. Data Collection.
5.10. Ethics in scientific publication.
5.11. Funding.

6. Scientific documentation in Health Sciences.

6.1. General issues.
6.2. Search process.
6.3. Bibliometric indicators.

7. Assessment and use of research

7.1. Introduction to critical reading.
7.2. External and internal validity.
7.3. Value scores.

8. Review studies

8.1. Introduction and types.
8.2. Bibliographic review.
8.3. Systematic review.
8.4. Meta-analysis.

9. Dissemination of research results

9.1. Introduction and importance of scientific dissemination.
9.2. Forms and types of disclosure.
9.3. Scientific poster.
9.4. Oral Communication.
9.5. Scientific article.

11. Practical program

1. Organization and planning of research work.
2. Implementation of bibliographic searches.
3. Management of bibliographical references.
4. Methodology and design of experimental studies.
5. Ethics and resources committee for conducting studies.
6. Critical reading of scientific articles.
7. Review Studies.
8. Scientific dissemination.
9. Writing of scientific articles.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	20,00
Computer classroom practice	40,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	30,00
Independent study and work	15,00
Preparation of lessons	45,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

EVALUATION

Theoretical program (40% of the final mark)

Written test.Review type test of 40 questions. 1 valid option.

Mark= [hits-(errors/nº options-1)]* (maximal mark/nº questions)

Practical program (60% of the final mark)

1. Group work (50%): Written manuscript and oral presentation

2. Practical teaching attendance (10%). Attendance is mandatory at all practices and only an absence of 20% of the total can be duly JUSTIFIED.

In all the written tests will be penalized the incorrectness spell check.

The total rating of the subject will be the sum of the highest grade obtained in the theoretical block and the maximum grade obtained in the block practical. Each of the tests exposed will be valued on 10, and later it get the percentage of each one of them. In order to pass the practical teaching is mandatory to pass both group work and attendance. In case of justified non-attending, a practical test could be done.

The final rating for the subject is done as long as the student has obtained at least 5 of 10 on each of the blocks: theoretical and practical. Plagiarism of any content (theoretical or practical) will mean the suspension of the subject.

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REFERENCES

Basic

-Evidence-Based Medicine Working Group. Evidence-based medicine. A new approach to teaching the practice of medicine. JAMA. 1992;268:2420-2425.
-Fetters L, Tilson J. Evidence Based Physical Therapy. F. A. Davis Company: Philadelphia; 2012.
-Greenhalgh, T. How to Read a Paper - the Basics of Evidence-based medicine. 2014. John Wiley & Sons Inc; Edición: 5th Revised edition.
-Jiménez J., Argimon J.M., Martín A., Vilardell M., Publicación Científica
-Robert H, Jamtvedt Gro, Hagen BK, Mead J. Practical Evidence-Based
-Physiotherapy. 2011. 2nd Edition. Churchill Livingstone.

Additional

-Equator Network: https://www.equator-network.org/reportingguidelines/ tidier/
-Indicadores bibliométricos de revistas JCR: https://www.isciii.es/QueHacemos/Servicios/Biblioteca/Paginas/JCR.aspx
-The Cochrane library: http://www.cochranelibrary.com

Likewise, each topic will include a list of recommended books, scientific articles, and relevant readings for the preparation of the content covered in that section.