RIABILITAZIONE BASATA SULLE PROVE DI EFFICACIA (TRO224)

1. lingua insegnamento/language

Italian

2. contenuti/course contents

Coordinatore/Coordinator: Prof. AUGUSTO FUSCO
Anno di corso/Year Course: 2025/2026
Semestre/Semester: Semestrale
CFU/UFC: 6
Moduli e docenti incaricati /Modules and lecturers:
- Computer science (TRO13B) - 2 cfu - ssd INF/01
Prof. Giuseppe Maulucci,
- Research methodology in rehabilitation(TRO11B) - 2 cfu - ssd MED/34
Prof. Augusto Fusco
- Medical statistics(TRO12B) - 2 cfu - ssd MED/01
Prof. Diana Giannarelli

3. testi di riferimento/BIBLIOGRAPHY

- I.F. Angelillo. Epidemiological Methodology. In: W. Ricciardi, Hygiene for Undergraduate and Master's Degrees, Sorbona, 2020
- K. Rothman. Epidemiology. Edited by G. La Torre, Idelson-Gnocchi, 2007
- M. Pagano. Biostatistics. Edited by I.F. Angelillo, Idelson-Gnocchi, 2003
- Teaching materials and handouts provided by lecturers.

4. Obiettivi formativi/LEARNING OBJECTIVES

By the end of the course, students should have the knowledge and ability to understand the structure, implementation, and writing of scientific research, using methodological and statistical criteria as well as computer-based tools.

Conoscenza e capacità di comprensione - Knowledge and understanding (Dublino 1): *Students will acquire the foundations of research methodology in the medical and rehabilitative fields.*

Conoscenza e capacità di comprensione applicate – Applying knowledge and understanding (Dublino 2*): Students will develop basic skills to make methodological choices consistent with the objectives of rehabilitation research.*

Autonomia di giudizio - Making judgements (Dublino 3): *Students will demonstrate the ability to apply conceptual and methodological elements empirically.*

Abilità comunicative – Communication skills (Dublino 4): *Students will acquire the ability to use the conceptual and lexical framework of medical research.*

Capacità di apprendere – Learning skills (Dublino 5): *Students will be able to pursue continuous personal learning to expand knowledge acquired during the course**.***

5. prerequisiti/prerequisites

No prerequisites are required.

6. metodi didattici/TEACHING METHODS

The course includes 75 hours of lectures, 25 hours of Research methodology in rehabilitation, 25 hours of Medical statistics, and 25 hours of Computer science.

Conoscenza e capacità di comprensione - Knowledge and understanding (Dublino 1): Delivered through interactive lectures.

Conoscenza e capacità di comprensione applicate – Applying knowledge and understanding (Dublino 2): Strengthened by practical exercises.

Autonomia di giudizio - Making judgements (Dublino 3): Focused on data analysis, management, and interpretation of scientific literature.

Abilità comunicative – Communication skills (Dublino 4): Group work, written reports, oral discussions, and project presentations.

Capacità di apprendere – Learning skills (Dublino 5): Encourages active and critical research for project development.

7. altre informazioni/OTHER INFORMATION

N/A

8. modalità di verifica dell'apprendimento/METHODS FOR VERIFYING LEARNING AND FOR EVALUATION

Assessment will consist of a written exam (open-ended and multiple-choice questions). An oral review of the written exam may be requested by the student.
Grading: out of 30.
A score below 18/30 means failure, and the exam must be retaken.
Maximum grade (30/30) requires:

- *mastery of the course's knowledge and skills,*
- *logically structured answers with appropriate terminology.*

Honors (cum laude) is awarded to students who demonstrate exceptional precision, confidence, and brilliance..

9. programma esteso/program

Research methodology in rehabilitation:

- *Evidence-based medicine and the Evidence Pyramid*
- *Research databases*
- *Bianco-Gelli Law*

- *Forest plots and research bias*
- *Primary and secondary publications*
- *Guidelines and recommendations*
- *Applied research methodology (technological and robotic rehabilitation)*
- *Structure of a scientific article*
- *Applied example: article review*
- *Applied example: article writing*

Medical statistics:

- *Data presentation*
- *Summary measures*
- *Confidence intervals*
- *Hypothesis testing*
- *Comparison of two means*
- *Comparison of two proportions*
- *Brief introduction to advanced statistical methods*

Computer science:

- *Fundamentals of computer science*
- *Information management*
- *Internet and the web*
- *Creating and organizing data in spreadsheets*
- *Formula dragging in spreadsheets*
- *Cell formatting in spreadsheets*
- *Use of general and statistical functions in Microsoft Excel*
- *Creating graphs in Microsoft Excel*
- *Introduction to statistical software (SPSS, STATA, R)*