UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Filosofia della Scienza

2526-2-E2401P064

Learning area

Interdisciplinary competences

Learning objectives

Knowledge and understanding

- Developing a critical point of view on scientific research;
- understanding the genesis, the validation and the obsolescence and/or the turnover of scientific theories and hypotheses;
- understanding which views can / cannot be considered scientific on the basis of different scientific criteria;
- providing a qualifying scientific and cultural background.

Applying knowledge and understanding

- Giving well-rooted and in-depth direction to scientific knowledge;
- interdisciplinarity;
- recognizing the relationships between different fields of psychological knowledge.

Making judgements

- development of critical analysis, evaluation, and synthesis of new and complex ideas through guided reading of texts, group discussions, and seminar activities.

Communication skills

- development of the ability to communicate information, ideas, problems, and solutions clearly and

consciously to specialist and non-specialist audiences in various educational and work contexts;
- development of solid active listening, negotiation, and teamwork skills, including interdisciplinary teamwork, as well as the ability to understand and critically analyse different points of view.

Learning skills

- development of the ability to continue one's studies independently, based on greater critical awareness and specific theoretical, conceptual, and methodological sensitivity.

Contents

The fundamental aim of the course is to critically examine the main currents of contemporary psychology, implemented through the tools offered by the philosophy of science. With this in mind, before analysing the different epistemological paradigms in psychology, we will illustrate the basic concepts of the philosophy of general science and the epistemology of the human sciences. The course ends with an in-depth study of the topic of scientism.

At the end of the course, students will be able to express the contents they have critically learned, demonstrating a grasp of the specificity of the epistemological perspective taken when critically examining various psychological currents. They will also be able to get to the heart of the psychology models analyzed, managing to highlight their various distinctive aspects and arguing for or against them. They will also gain a critical space for analysing and evaluating the epistemological consequences of robotics.

Detailed program

Part one: general philosophy of science

• What are scientific theories?
• The relationship between the notion of theory and those of hypothesis and law
• Deductive-nomological explanation vs. inductive-statistical explanation
• Philosophical interpretations of the notion of probability
• Explanation and prediction
• Neo-positivism from the first to the third phase
• Popper's rejection of the inductive method
• Inductivism vs. anti-inductivism: Reichenbach and Popper compared
• Popper's hypothetical-deductive method
• Corroboration and rational prediction: WC Salmon's critique of Popper
• Theoretical load and evolutionary epistemology in Popper
• Post-Popperian Epistemology: T. Kuhn and P. Feyerabend
• Theoretical load: moderate version and radical version
• The dynamics of science: comparison between neo-positivism, Popperism, and post-Popperian epistemology
• Truth and verisimilitude in Popper
• Realism and anti-realism about the unobservable entities in science

Part two: philosophy of the human sciences

• Explanation vs. understanding: the birth of the debate in the nineteenth century and contemporary perspectives
• Analytical philosophy: philosophy of common language vs. causal approach (neo-positivism and cybernetics)
• Popper's situational logic

• The practical inference of von Wright
• Deductive-nomological model and practical inference: analogy and difference

Part three: philosophy of the different approaches to psychology

• The debate on the scientific nature of psychoanalysis: Grünbaum vs. Popper
• The epistemological status of psychology according to W. Wundt
• The philosophical foundations of behaviourism
• The philosophical foundations of the cognitive sciences
• The philosophical foundations of the systemic-relational approach
• The philosophical foundations of constructionism

In-depth inquiry: science and scientism

• Scientism as a philosophical attitude
• The main features of scientism
• Scientism as a problem for science

Prerequisites

No specific prerequisites are required—only curiosity, enthusiasm, and dedication.

Teaching methods

28 in-person lecture-based classes. The teaching methods include direct exposure, group discussion, analysis of historically and scientifically relevant texts, and the conduct of eventual in-depth seminar discussions.
The course is Italian. Class attendance is strongly recommended.

To facilitate those students who do not attend classes, the teaching material (slides and some other texts specified in the section “Textbooks and Reading Materials”) is available on the e-learning webpage of the course.

Assessment methods

The exam includes a mandatory written section and an optional oral part, which must be scheduled with the Professor. It aims to assess how well the student has understood the course material (both from the lessons and the books to study). The written section consists of multiple-choice and open-ended questions and must be completed within a maximum of one and a half hours.
Each multiple-choice question is scored either 0 (wrong answer) or 1 (correct answer), while each open-ended question is scored from 0 (completely wrong answer) to 2 (completely correct answer). There will be no examination tests during the course; however, during the last lessons in December, students will have the chance to participate in a test simulation upon registration. Additional information about the exam will be shared during the first lessons and included in the slides. For any questions about it, do not hesitate to contact the Professor by email or at the end of the lesson.

As mentioned above, the course is in Italian. However, for Erasmus students, the course materials may also be available in English, and students can choose to take the exam in English if they wish to do so.

Textbooks and Reading Materials

Mandatory

• Course slides (available on the e-learning page)
• Corradini, Epistemologia delle scienze umane. Un’introduzione al corso, EDUCatt, Milano, 2018 (available on the e-learning page)
• M. Castiglioni-A.Corradini, Modelli epistemologici in psicologia: dalla psicoanalisi al costruzionismo, Carocci, Roma, 2011
• G. Lo Dico (a cura di), Lo scientismo, 2025 (available on the e-learning page)

Optional

• S. Okasha, Il primo libro di filosofia della scienza, Einaudi, Milano, 2006
• P. Godfrey-Smith, Teoria e realtà. Introduzione alla filosofia della scienza, Cortina, Milano, 2022

Sustainable Development Goals

QUALITY EDUCATION