

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

### **COURSE SYLLABUS**

# **History of Science**

2526-2-E2004P010

#### Learning area

1: Linguistic and communicative processes and related cultural contexts.

#### Learning objectives

#### Knowledge and understanding

- Main concepts and themes on history and philosophy of science.
- Intellectual, social, and economic factors characterizing the development of scientific knowledge.
- Epistemological, social, and cultural implications of different scientific theories and traditions.

#### Applying knowledge and understanding

- Improvement of the student's cultural background, increasing his critical attitude and awareness of philosophical and scientific investigation as a tool for the management and solution of collective issues.
- Acquaintance with different forms and practices of science and scientific communication, in an interdisciplinary perspective.
- Development of an adequate capacity for conceptual thinking.
- Development of analysis and interpretation skills of texts, images, and symbols.
- Development of design capacity, organization and coordination of cultural activities and projects concerning the history of scientific disciplines.

#### Making judgements

• Development of the ability to critically analyze, evaluate and synthesize new and complex ideas (also in relation to emerging global problems) both through guided and/or personal reading of texts from the

Western philosophical-scientific tradition, and through group discussions and seminars.

#### Communication skills

- Development of the ability to communicate information, ideas, problems and solutions clearly and consciously to specialist and non-specialist interlocutors and in different training and work contexts.
- Development of a solid capacity for active listening, negotiation and working in interdisciplinary groups, as well as understanding and critically analyzing different points of view.

#### Learning skills

• Development of the ability to continue the study path independently, strengthened by a greater critical awareness and a renewed theoretical-conceptual and methodological sensitivity.

#### **Contents**

#### Title > Lived time: between normality and psychopathology

The course is divided into two parts.

- a) After some preliminary epistemological considerations (e.g. the concept of 'science', the relationship between theory and observation, the nature of scientific reasoning, the main models of explanation, and the debate between realists and anti-realists in science), the **first** *institutional* part will examine some fundamental moments of the history of Western philosophical and scientific thought from antiquity to the 20th century.
- b) In the **second**, *monographic* part, the issue of time and its lived experience both pathological and non-pathological will be examined with reference to the contributions of the French psychiatrist Eugène Minkowski (1885-1972).

#### **Detailed program**

#### a) General part - Fundamentals of history of philosophical scientific thought

- Preliminary considerations of history and philosophy of science.
- The birth of Greek science.
- Hippocrates and the medical school of Cos.
- · Science in Plato and Aristotle.
- The scientific culture of the Hellenistic age: medicine, mathematics and astronomy.
- The brief renaissance of the imperial age: Ptolemy and Galen.
- The decline of science in the late antique and medieval Western world.
- The Renaissance "revolution".
- Leonardo da Vinci and the world of techniques.
- The birth of modern science: the renewal of astronomy and medicine.
- · Galileo Galilei and experimental method.
- Francis Bacon.
- Descartes and mechanism.
- The discovery of blood circulation and iatromechanism.
- · Isaac Newton's natural philosophy.
- · Lavoisier and the birth of modern chemistry.

- The foundation of the man sciences.
- Biology, physiology, and life sciences in the 19th century.
- Charles Darwin and the theory of evolution.
- Positivism, conventionalism, logical empiricism.
- Karl Popper and falsificationism.
- Change and revolution in science: Kuhn, Lakatos, Feyerabend.

#### b) Monographic part – Lived time: between normality and psychopathology

- Modern clinical practice and mental illness:
  - Two models of mental illness.
  - The two souls of modern psychopathology: from Pinel to Kraepelin and from Pinel to Freud.
- The phenomenological turn: philosophical and methodological foundations.
- Time, psyche, and existence in Eugène Minkowski's works.

#### **Prerequisites**

None.

#### **Teaching methods**

#### 28 in-person lecture-based classes.

Teaching methods consist in direct exposure, group discussion, analysis of historically and scientifically significant texts, and possible in-depth seminars. The course is held in Italian. *Class attendance is strongly recommended*.

#### **Assessment methods**

The verification of learning will be carried out through a **written test**, divided into a part with 30 multiple-choice questions and a part with 3 open questions. The questions are aimed at testing the effective acquisition of the topics illustrated during the course, as well as to ascertain the ability to manage the contents of the proposed bibliography and the capability to critically deal with them. For the purpose of evaluation, consideration will be given not only to the accuracy of the responses but also to the ability to argue effectively, synthesize information, establish connections, critically engage with the concepts learned, use appropriate technical language, and write fluently.

Upon student's request, the exam (if the written test is sufficient) can be integrated by an **oral examination**, on all the course topics.

There is no midterm exam.

#### **Textbooks and Reading Materials**

Detailed information about the textbooks and reading materials will be published on the e-learning page associated with the course.

Foreign students (Erasmus) may contact the lecturer to arrange an examination programme in English or French.

## **Sustainable Development Goals**

QUALITY EDUCATION | GENDER EQUALITY | PEACE, JUSTICE AND STRONG INSTITUTIONS