



RESEARCH STRANDS

Curricular unit:

Research strands
Teacher in charge: Filomena da Luz Martins Pereira
Other teachers: N/A

ECTS:

3.5

Intended learning outcomes of the curricular unit (knowledge, skills and competences to be developed by the students):

Acquisition of the rationalist attitude theoretical, historical and methodological fundaments as well as the understanding of associated research instruments.

After this unit, students should be able to:

- 1. Capabilities of intellectual rigor, rational logical thinking, information criticism and of its sources, autonomous learning.
- 2. Intellectual curiosity, inquisitive and critical attitude.
- **3.** Knowledge of the evolution of rationalist thinking.
- **4.** Ability to grasp scientific evidence based on the main approaches of quantitative and qualitative research methods.
- **5.** Understanding science nature and the modalities of knowledge creation.
- **6.** Ability to place issues in the correct historical and cultural context.
- **7.** Capacity to be able to critically balance rationality and morality.
- **8.** Mastering the epistemological critique of the truth notion.
- **9.** Understanding the ethical imperatives, namely in clinical and animal research and knowledge of its legislation, standards and procedures.

Syllabus:

- Scientific Rationality: Actual high amount of information, correct and incorrect and consequent critical difficulty. Context: times of crisis, millenarianisms, "conspiracies", esoterisms. Fallacies. Essential aspects of science: quantification, sampling, exemption, objectivity. Observation, classification, experimentation, theorizing. Modeling and prediction. Serendipity. Popper's philosophy of science, falsifiability. The scientific method. Rationalism: from antiquity to enlightenment to the moderns. Formal and dialectical logic. Science and humanism, today.
- II. Intellectual integrity; Notion and consequences of plagiarism.
- III. Bibliography and databases. Writing: articles, protocols, projects, reports.





Syllabus: (continuation)

IV. Bioethics

Theories, principles, methods. Dignity in death, abortion, medically assisted procreation, diagnosis and genetic manipulation.

Rights of patients and participants in clinical trials. Legislation and regulation; institutional bodies. Discussion of cases and jurisprudence.