THEORY OF SCIENCE

HRCM17-102

Purpose of course

Goals of the subject

Students become able to deeply understand the basic elements of the scientific method, acquire the basic competencies needed to cultivate science, and will be able to distinguish between true scientific and non-scientific publications and knowledge. They also have the ability to provide conditions needed to cultivate science.

Learning outcomes and competences

Knowledge:

- Knowing the different interpretations of science.
- Knowing the strengths, limitations and usability of different measurement tools and methods.
- Knowing the different forms of scientific utterance: lecture, presentation, poster and publication.

Attitude:

- In the processes of understanding, a critical thinking and an attempt to analyze are typical.
- In he students' professional communication they strive to act according to the norms.
- A value-based approach is typical, focusing on work as a creative activity.

Skills:

- To be able to deeply understand the basic elements of the scientific method and be able to distinguish between true scientific and non-scientific publications and knowledge.
- To be able to produce an independent, professional scientific analysis on their own field.
- To be capable of effective written and oral communication, presenting the results of their work, and defending them in debate.

Content of the subject

Main content and thematic units

During the course, students will learn about different interpretations of science, especially as a way of cognition and other ways of getting acquainted with it. They will learn the gist of their interpretation as method, strengths, limitations, quality assurance methods (scientometrics), and various measurement tools and methods. Students will process the main elements of the scientific method: observation, experiment, reliability, consistency, validity. They will get a picture of the methods of cultivating science and providing conditions: lecture, publication and writing an application. They become acquainted with the basic thinking of the distinction between true and pseudoscience.

Planned learning activities and teaching methods

Lecture

Exam and evaluation system

Requirements, methods and aspects of assessment:

Method of evaluation: exam

Aspects of evaluation:

Colloquium based on the item list.

Literature

Compulsory literature:

Bricmont, J., Sokal, A. (2008): *Intellektuális imposztorok*. Typotex, Budapest. ISBN 978-963-2790-13-8

Dienes, Z. (2008): *Understanding psychology as a science*. Palgrave. ISBN 9780230542303

Kuhn, T. (2000): *A tudományos forradalmak szerkezete*. Gondolat, Budapest. ISBN 9633793629

Mérő, L. (2008): *Észjárások – Remix*. Tericum. ISBN 9789639633506

Taleb, N. N. (2012): *A Fekete Hattyú*. Gondolat, Budapest. ISBN 9789636933449