Course: Soil Seminars: Epistemology of Science and Project Development

Identification

Code: SOL 851
Credits: 1 (1-0)
Level: Master and Doctorate
Professors: Paulo Ivonir Gubiani
System: Semesters (I and II semesters)

Discipline objectives

To help the humanistic and technical education of the students to act actively and critically in constructing and analyzing knowledge; discuss the theoretical basis and methods of obtaining scientific knowledge; provide students with theoretical and practical subsidies so they can elaborate a straightforward and feasible research project with the potential to produce knowledge.

Syllabus

Basic concepts: knowledge, science, and the scientific method. Function and rationale of scientific research. Conceptions of research projects.

Methodology and/or teaching instruments

Lectures with a slide projector and remote-teaching platforms, discussion of texts and videos, and out-of-class exercises.

Forms of evaluation

Participation in discussions, essay evaluations, evaluation of the research project prepared by the students.

Program: Title and Breakdown of Units

Unit 1 - Science and scientific knowledge

1.1 - Brief history of the construction of human knowledge
1.2 - Science and philosophy
1.3 - Rationalism and empiricism
1.4 - Scientific method

Unit 2 - Conception of the scientific research proposal

2.1 - Types of research
2.2 - Variables
2.2 - Delimitation of the research scope
2.3 - Research problem
2.4 - Hypothesis
2.5 - Objective

Unit 3 - Operationalizing research

3.1 - Subject and/or object of study
3.2 - Experimental design
3.2 - Data collection techniques
3.3 - Data analysis

Unit 4 - Preparation of the research project

4.1 - Diversity of research project models
4.2 - Introduction and justification
4.2 - Material and methods

4.3 - Expected contributions
4.4 - Schedule
4.5 - Bibliographical references

Recommended literature

ANDERY, M. A. e. a. **Para compreender a ciência:** Rio de Janeiro, 1988.

CHALMERS, A. F. **O que é ciência afinal?** São Paulo, SP, Brasiliense, 1993, 225p.

DUTRA, L.H.A. Introdução à epistemologia. São Paulo-SP, UM/;ESP, 2010. 192p.

ECO, H. **Como se faz uma tese**. Ed. Perspectiva, São Paulo, 1978. 170p.

KUHN, T. S. A. **Estrutura das revoluções científicas:** São Paulo, 1987.

MORAIS, R. **Filosofia da ciência e da tecnologia,** 5ª ed.; Papirus: Campinas, SP, 1988.

POINCARE, J. H. **A ciência e a Hipótese**, 1988.

SOUZA, I. S. F. **A sociedade, o cientista e o problema de pesquisa:** São Paulo, 1993.

SOUZA, Lícia Soares de. Comunicação em tecnologia educacional. Tecnologia Educacional, **Revista da Associação Brasileira de Tecnologia,** Rio de Janeiro, ABT, n.102/103, p.10-17, set./dez., 1991.

VOLPATO, G. Ciência: da filosofia à publicação. São Paulo-SP, Cultura Acadêmica, 2013. 377 p.

VOLPATO, G., BARRETO, R. Elabore projetos científicos competitivos. Botucatu-SP, Best Writing, 2014. 174 p.