

Code: Special topics

Course name: Filosofia da ciência e da ecologia (Philosophy of science and ecology; IMPORTANT: LECTURES WILL BE TAUGHT IN PORTUGUESE)

Credits: 1

Professor: Dr. Eduardo L. Hettwer Giehl

Year/Semester: 2019.2

Period: August 6-9

Schedule: Tuesday, Wednesday and Friday afternoons (2-6 pm) and Wednesday morning (8-11:30 am)

Number of students: 20

Location: SIPG 15

Office hours: Room 224 B, Fritz Müller (ECZ) Building

Pre-requisite: none

Syllabus:

Introduction to i) main philosophical questions in science (mostly the problem of delimitation); ii) assessment of scientific progress in science in general and in the field of ecology; iii) use of multiple hypotheses and its advantages to scientific progress.

Methodology:

The course will encompass lectures and readings aiming to cover the key topics to be discussed. Working groups will be established to foster discussion and to play with educational games.

Assessment of students' performance:

Participation in lectures and other activities and answers to short quizzes at the end of lectures.

Detailed schedule:

When?	What?
First lecture (August 6; 2-6 pm)	What is science? What sets apart science from other types of knowledge?
Reading assignment (August 7; 8-11:30 am)	Readings on four different concepts of science (Popper, Kuhn, Lakatos & Thagard) with emphasis on the problem of delimitation
Second lecture (August 7; 2-6 pm)	Discussion about the delimitation problem and scientific progress; How can we tell whether a field is growing faster than others?
Reading assignment and last lecture (August 9; 2-6 pm)	Working with multiple hypotheses to foster scientific progress

References and links:

Chalmers A.F. & Fiker R. (1993) *O que é ciência afinal?* Brasiliense, São Paulo.

Chamberlin T.C. (1965) The method of multiple working hypotheses. *Science*, **148**, 754–759.



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Curd M. & Cover J. (1998) *Philosophy of science: The central issues*. Norton.

Platt J.R. (1964) Strong inference. *Science*, **146**, 347–353.

Dynamic Ecology Blog, available at <https://dynamicecology.wordpress.com/>