

# Philosophy of Science

Pavel Kuchař, Spring 2015

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Thursdays 8:00 am - 11:00 am

Room B- 103, DCEA, University of Guanajuato

In this course we will examine the nature of scientific knowledge. By way of reading and discussing selected original texts, students will learn about major approaches to philosophy and methodology of science with a particular focus on economics. We will look into major discussions and study different accounts as proposed by Karl Popper, Thomas Kuhn, Imre Lakatos and Paul Feyerabend.

Students of this course will be able to discuss and argue for or against different approaches to philosophy of science; they will learn how a demarcation between science and pseudoscience can be drawn and understand how beliefs are epistemically warranted. We will learn about methodology of positive economics, falsifiability, paradigms, scientific research programs, methodological anarchism and rhetoric of economics.

Before entering this course students will have passed the Área I courses and level IV English language exam or have reached the corresponding TOEFL score.

## Literature

Feyerabend, Paul. 1975. *Against Method*. 3rd Edition. 1993. London: Verso Books.

Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. 3rd edition, 1996. Chicago: University of Chicago Press.

Popper, Karl R. 1959. *The Logic of Scientific Discovery*. Psychology Press, 2002.

Lakatos, Imre. 1978. *The Methodology of Scientific Research Programmes*. New York: Cambridge University Press

## Topics

### 1) Introduction

- \* Friedman, Milton. "The Methodology of Positive Economics." In *Essays in Positive Economics*. Chicago: University of Chicago Press, 1953: 3-43.
- Caldwell, B. J. "Contemporary Philosophy of Science: The Growth of Knowledge Tradition." In *Beyond Positivism: Economic Methodology in the Twentieth Century*. London-Boston: G. Allen & Unwin, 1984: 68-96.
- Hausman, Daniel M. "Economic Methodology in a Nutshell." *The Journal of Economic Perspectives*, 1989, 115-27.
- Hausman, Daniel M. "Why Look under the Hood." *The Philosophy of Economics: An Anthology*, 1994, 217-21.
- Mäki, Uskali "Unrealistic Assumptions and Unnecessary Confusions: Rereading and Rewriting F53 as a Realist Statement," in Uskali Mäki, editor, *The Methodology of Positive Economics: Reflections on the Milton Friedman Legacy*. Cambridge: Cambridge University Press, ch. 3 (pp. 90-116).

### 2) Popper

- \* Popper, Karl. Fundamental Problems (ch 1), Scientific Method (ch. 2), Falsifiability (ch. 4), and Problem of the Empirical Basis (ch. 5) in *The Logic of Scientific Discovery*, 1959.
- \* Popper, Karl. "Science: Conjectures and Refutations," in *Conjectures and Refutations*. London: Routledge and Kegan Paul, 1963.
- \* Popper, Karl. "The Logic of the Social Sciences," in T.W. Adorno, *The Positivist Dispute in German Sociology*. London: Heinemann, 1976.
- Caldwell, Bruce J. "Clarifying Popper." *Journal of Economic Literature*, 1991, 1-33.
- Blaug, Mark. "Confessions of an Unrepentant Popperian." *New Directions in Economic Methodology*, 1994, 109-36.
- Koertge, Noretta. "The Methodological Status of Popper's Rationality Principle." *Theory and Decision* 10, no. 1-4 (1979): 83-95.
- Hands, Douglas W. "Karl Popper and Economic Methodology: A New Look." *Economics and Philosophy* 1, no. 01 (April 1985): 83-99. doi:10.1017/S0266267100001905.
- Blaug, Mark. "Comment On D. Wade Hands, 'Karl Popper and Economic Methodology: A New Look.'" *Economics and Philosophy* 1, no. 02 (1985): 286-88.

### 3) Kuhn

- \* Kuhn, Thomas S. Paradigms & Anomalies (ch. 5-6), Revolutions (ch. 9) in *The Structure of Scientific Revolutions*. 3rd edition, 1996. Chicago: University of Chicago Press.
- \* Kuhn, Thomas S. "The Essential Tension: Selected Studies in Scientific Tradition and Change," 1977.
- Bronfenbrenner, Martin. "The 'Structure of Revolutions' in Economic Thought." *History of Political Economy* 3, no. 1 (March 20, 1971): 136-51. doi:10.1215/00182702-3-1-136.
- Coats, A. W. "Is There a «structure of Scientific Revolutions» in Economics?" *Kyklos* 22, no. 2 (1969): 289-96. doi:10.1111/j.1467-6435.1969.tb02533.x.

#### 4) Lakatos

- \* Lakatos, Imre. "Criticism and the Methodology of Scientific Research Programmes." In *Proceedings of the Aristotelian Society*, 149–86. JSTOR, 1968. <http://www.jstor.org/stable/4544774>.
- \* Lakatos, Imre. "Popper vs. Kuhn" (pp. 90-101) in *The Methodology of Scientific Research Programmes*. New York: Cambridge University Press, 1978.
- Remenyi, Joseph V. "Core Demi-Core Interaction: Toward a General Theory of Disciplinary and Subdisciplinary Growth." *History of Political Economy* 11, no. 1 (March 20, 1979): 30–63. doi:10.1215/00182702-11-1-30.
- Blaug, Mark. "Kuhn Versus Lakatos, or Paradigms Versus Research Programmes in the History of Economics." *History of Political Economy* 7, no. 4 (December 21, 1975): 399–433. doi:10.1215/00182702-7-4-399.
- Backhouse, Roger. "The Lakatosian Legacy in Economic Methodology," in Backhouse, editor, *New Directions in Economic Methodology*. London: Routledge, 1994, pp. 173-191.
- Hoover, Kevin D. "Scientific Research Program or Tribe? A Joint Appraisal of Lakatos and the New Classical Macroeconomics," in *Appraising Economic Theories: Studies in the Application of the Methodology of Research Programs*, Mark Blaug and Neil de Marchi, editors. Aldershot: Edward Elgar, 1991.
- Hands, Wade D. "Popper and Lakatos in Economic Methodology," in Uskali Mäki, Bo Gustafsson, and Christian Knudsen, editors, *Rational Institutions and Economic Methodology*. London: Routledge, 1993, pp. 61-75.

#### 5) Feyerabend

- \* Feyerabend, Paul. "Anarchic Enterprise" and "Improving Knowledge" (ch. 1-5), "Discovery and Justification," "Scientific Comparison" and "Measures of Excellence" (ch. 15-17), Science and Democracy (ch. 19) in *Against Method*. 3rd Edition. 1993. London: Verso Books.
- Caldwell, B. J. "Contemporary The Theory Choice Problem and the Growth of Knowledge Tradition" In *Beyond Positivism: Economic Methodology in the Twentieth Century*. London-Boston: G. Allen & Unwin, 1984: 223-230.
- Blaug, Mark. Feyerabend's anarchism in *The Methodology of Economics, Or, How Economists Explain*. Cambridge; New York, NY: Cambridge University Press, 1992.

#### 6) Rhetoric of Economics

- \* McCloskey, Donald N. "The Rhetoric of Economics," *Journal of Economic Literature*, June 1983, 481-517;
- Mäki, Uskali. "Diagnosing McCloskey," and D. McCloskey, "Reply to Mäki," *Journal of Economic Literature*, September 1995, 1300-1323.
- McCloskey, Donald N. "Modern Epistemology against Analytic Philosophy: A Reply to Mäki." *Journal of Economic Literature*, 1995, 1319–23.
- Morgan, Mary S. "Models, Stories and the Economic World." *Journal of Economic Methodology* 8, no. 3 (January 1, 2001): 361–84. doi:10.1080/13501780110078972.

## Evaluation

**Class participation** makes up for 20% of the final grade. Students are expected to be *present and prepared* with two possible exceptions. Short reflections on the assigned texts will be required. There will be four short essays. Each of these will count for 20% of the grade. The quality of the argument (a valid claim and a persuasive reasoning supporting the claim) along with formal language aspects will be considered. The working language of the course is English.

The literature marked [\*] is required. You are not obliged to read the non-[\*] marked readings although these will generally constitute the material referenced in the classroom and are thus useful for those who wish to extend their understanding of the subject matter. The evaluation ranges from 0 to 10 through increments of 0.5. Only an evaluation equal or greater than 7 counts as a pass.

## Policies

Unless you have an official leave of absence confirmed by the university, there is no way of making up for scheduled exams in case you cannot not take them. If you do not take the exam or fail to submit an assignment in time you will receive an evaluation of zero for this exam or assignment. If you have an official leave of absence please talk to me immediately. Even if you do not have an official leave of absence, it is generally recommended you turn in the assignment anyway. In such a case your evaluation will be discounted by 20% for each day you are late. In case you had a conflict with another exam, please approach me as soon as possible.

If you have any questions or doubts about the subject matter or about any organizational issues please consult the official social media group of this class (will be announced), ask your classmates, approach me during the class or set up an appointment with me (in this particular order!).

- Come to class on time (if you cannot avoid being late, please be discreet and considerate)
- Turn off any electronic device that might possibly make a sound during the class
- Do not eat, drink, read newspapers, magazines or similar. Do not maintain conversations irrelevant to our work in the class.

## **Disability assistance**

If you need any special disability assistance please let me know during the first week of the semester so that I can arrange for the required help.

## **Academic integrity**

In this class we follow the Academic Integrity Code:

*„No student will lie or cheat or plagiarize or tolerate those who do so.“*

At the moment of entering the University, every student assumes an obligation to maintain the code, accept the responsibility to learn and to follow the philosophy of professional ethics. It is required that students apply the code while taking exams, submitting assignments or working on their research. Ignoring the rules does not excuse any person from being subject to a corresponding punishment.

In case there is an evidence of a conduct breaching the Academic Integrity Code, the student will be assigned an evaluation of zero in the corresponding exam or assignment. Furthermore, the student will be subject to an administrative process carried out by the Committee of Honor and Justice of the DCEA which has the power to suspend or expell the student that has been found guilty.

Please do not plagiarize. Realize that if you found it online, I can do so too! What is appreciated is your effort in learning, not the possession of a solution. If you are not sure what plagiarism is, consult [this source](#).

## **Codex of behaviour in my classroom**

As a student you will

- Contribute to a constructive conversation, be concise.
- Tackle the argument not the person, no insults.
- Remember that raising your voice does not make you any more persuasive

As your lecturer I will

- Guide you through the subject matter in a more interesting way
- Consider your ideas with full attention
- Attend to your needs so that you benefit from our time together as much as possible