

Tuesdays, Thursdays, and Fridays: 1:35pm–2:25pm, Leacock 110

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Summary. The sciences are widely considered to produce the best and most reliable knowledge about many aspects of the world. This success naturally leads to a number of philosophical questions, such as: Are there certain methods that scientists use and which ensure that science arrives at objective results? Does scientific knowledge grow in a progressive fashion in the course of history? Do scientists have good reasons to abandon old ideas and replace them with novel theories, or are scientific theories maintained only by the social power of a group of scientists? What is a scientific explanation? Does it make sense to say that a scientific theory is true or false? Does science describe reality or is it a literal interpretation of our scientific theories unwarranted? These questions, and others as well, will be addressed in this course.

Outline. This course is an introduction to the philosophy of science. After a brief discussion of the ‘scientific revolution’ in the 16th and 17th century, we take a closer look at arguments on the nature and status of scientific knowledge that were put forward from the early 20th century onward. We begin by discussing the ‘standard view’ of science that focuses on the logical structure of scientific theories and addresses such issues as confirmation and theory choice. Next we turn to challenges of this view from history and sociology. We read arguably the most famous book in contemporary philosophy of science, Kuhn’s *The Structure of Scientific Revolutions*, in which he emphasizes sharp discontinuities in scientific thought and the importance of social and cultural factors in theory choice. In the final portion of the course we consider modern debates regarding scientific realism and the development of scientific concepts.

Textbooks. The following books are required for this course:

- Peter Godfrey-Smith, *Theory and Reality, an introduction to the philosophy of science*, University of Chicago Press, 2003.
- Thomas Kuhn, *The Structure of Scientific Revolutions*, University of Chicago Press, 1996.
- E. D. Klemke, Robert Hollinger, David Rudge, and David Klein, *Readings in the Philosophy of Science*, Prometheus Books, 3rd rev. ed., 1998.

All three books are available at The Word Bookstore, 469 Milton Street (5 mins. from the University Street Gates; no credit cards). These texts are essential.

Additional reading materials will be made available on MyCourses or handed out in class.

Requirements & grading. Students are expected to attend and participate in class, do the assigned readings, and complete homework assignments. Assignments and papers are due at the beginning of class on the date mentioned on the assignment and have to be turned in on paper. Grading will be based on correctness *and* clarity. The *final grade* depends on small homework assignments (10%), two short papers (20% each), and a term paper (50%). Every student can take up to two ‘late days’ for handing in the assignments and papers during the semester. Otherwise, late homework will not be accepted (except in cases of documented emergencies).

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“In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.”

“In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.”