

Office Hours:

Monday 10:00-12:00
Wednesday 9:15-11:00
Thursday 2:15-4:00
Other times by appointment

Goal of this Course

The goal of this course is to introduce students to two principal areas of philosophical concern in relation to science. First, since science is a kind of knowledge, the work of scientists raises problems in *epistemology*. Epistemology is the part of philosophy that explains what knowledge is, how we acquire it, how knowledge differs from such conditions as opinion, belief, and faith, and so forth. Philosophers want to know what kind of knowledge scientists generate, upon what foundations that knowledge is built, what it is that we know in science, and so forth. The second part of the course deals with religious and moral problems in relation to science. Religions (especially Judaism, Christianity, and Islam) tell us that God is the cause of everything in the universe, but scientists also claim to explain the causes of the universe. Are these two claims compatible or in contradiction? Science also raises a number of ethical problems: does an evolutionary account of human origins imply that ethics is really an illusion? Should scientists experiment in the production and modification of life, even human life? Is science properly inclusive or exclusive of all of humanity, including women and racial minorities? Such are the problems to be considered in this course.

Texts for the Course

Science and the World: Philosophical Approaches, edited by Jeffrey Foss. Peterborough, ON: Broadview Press, 2014. [=Science]

Some texts available on Moodle.

Schedule of Readings

Part I: Epistemology of Science

The Problem of Scientific Knowing

Jan 3,4 Introduction to the Course; The Problem of Induction.

Hume and His Heirs

Jan 9,10,11 Hume, *Science*, pp. 23-33; Hemple, *Science*, pp. 42-50.

Jan 15,17,18 Scheffler, *Science*, pp. 59-66; Popper, *Science*, pp. 76-87.

Paradigms and Objectivity in Question

Jan 22,24,25 Kuhn, *Science*, pp. 96-112.

Jan 29,31 Harding, *Science*, pp. 123-140; Giere, *Science*, pp. 148-158.

Quiz: Feb 1

Return to Realism

Feb 5,7,8 Foss, *Science*, pp. 188-202; van Frassen, *Science*, pp. 208-218.

Feb 12,14,15 Churchland, *Science*, pp. 227-236; Peacock, *Science*, pp. 251-264.

[Feb 19-23: Reading Week]

Feb 26,18, Mar 1 William Wallace, "Basic Concepts: Natural and Scientific." [Moodle]

Part II: Science, Religion, and Ethics

Cosmology and God

Mar 5,7,8 Newton, *Science*, pp. 12-14; Galileo, *Science*, 289-292; "Galileo, Science, & the Church," PowerPoint Lecture.

Creation, Creationism, Evolution

Mar 12,14,15 “Creation and Evolution,” Lecture with notes [Moodle];
Morris, *Science*, pp. 326-347; Ruse, *Science*, pp. 358-381.

Evolution and Ethics

Mar 19,21,22 Dennett, *Science*, pp. 390-404; Ruse & Wilson, *Science*,
pp. 419-422; Pinker, *Science*, pp. 430-437.

Cloning and Human Life

Mar 26,28,29 Dawkins, *Science*, pp. 444-451; Tracy, *Science*, pp. 460-
468; Kitcher, *Science*, pp. 474-480.

[Mar 29: Term Essay Due]

Science and Feminism

Apr 2 Green & Bigelow, *Science*, pp. 486-494.

Review

Apr 4,6

Assignments and Grading for Course

February Quiz	February 1	20%
Term Essay	March 29	40%
Final Exam	TBA	40%

Class Attendance

The texts assigned in this course are written in styles that are foreign to many undergraduate readers, and the ideas conveyed in them are difficult to comprehend. These texts can take you into beautiful, new worlds, but you have to allow them to lead you, and you need help. The help is ready for you: it comes in each class, where your professor will patiently explain any difficulties in the texts or the ideas. This help cannot be given if you are not willing to receive it. To succeed in this course, you must attend

classes and do the assigned readings *before* each class. You will not understand all that is in the readings, but the class session will help you to understand what you cannot on your own. Attendance will be taken in class, but the responsibility for attendance is yours.

Academic Integrity

Please note the information given about the University Academic Integrity Policy in the *Academic Calendar*, 3.8. You are completely free to use any academic sources, including those found on the internet, to aid you in the writing of your essays. **If you do use any academic sources by citing, quoting, paraphrasing, or by using information or terminology, you must give a full reference to any such source. Failure to cite your sources can result in severe academic penalties, including dismissal from the University.** If you have any doubts about what might or might not be appropriate, please get in touch with me. In addition, the instructors in the Writing Centre can help you to understand what is permissible and what is not.

Classroom Courtesy

- It is a great convenience, for some, to use electronic devices in class for note-taking only. If you bring electronic devices to this classroom, please do not disturb your fellow students by the use of them for activities other than classroom work. Do not surf the internet, text your friends, or make or receive phone calls. Noisy typing is an irritation; be considerate.
- Please do not have private conversations during class; they are disturbing and rude.
- Be on time for class! Late arrivals are a disturbance for everyone.
- Classes are short and intense. Be present and concentrate. Do not do anything to disturb others.