

## Literature and Science

### Contact information

Instructor	Matthew Wilkens
Course	English 294-03: Literature and Science
Meetings	MWF 1:10–2:10
Location	Old Main 011
Office hours	Old Main 206, MW 2:15–3:15 and by appointment
E-mail	wilkensm@macalester.edu

### Synopsis

An intermediate-level undergraduate course on the conceptual links between science, science studies, and literary fiction, covering major figures and contemporary problems at the intersection of these fields. No prerequisites, although experience in literature or philosophy will be helpful. *NB: This is not a course in science fiction.*

### Description

Literature has long drawn on science as a source of both subject matter (as in science fiction) and metaphorical associations (from Defoe to Pynchon, and countless points between). Science has likewise relied on literature not only as a means to popularization, but also in its professional propagation. But is this connection between the two fields more than a superficial and coincidental alignment of interests? Do literature and science work in similar ways? Can we compare the kinds of knowledge they produce? What does it mean to “produce” knowledge? And how do we do it?

This course attempts to answer these questions by considering recent developments in science studies in conjunction with both literary theory and works of contemporary fiction. It explores the connections between the terms “objectivity,” “truth,” “paradigm,” “collective,” “event,” “narrative,” and “allegory” and argues that knowledge is the product of a situated interaction between them.

The semester will be divided into five three-week units, each comprising a primary theoretical and fictional text, along with supplementary articles and other materials. The first unit covers the historical origins of science studies, including Ludwik Fleck’s concepts of “thought styles” and collectivities. It pairs this work with Thomas Pynchon’s *The Crying of Lot 49* to examine both the complexity and inescapability of social structures of knowledge. The second unit, covering Thomas Kuhn and Alain Robbe-Grillet, continues and expands the first, moving away from collectivities as pre-given entities and beginning to examine the temporal processes through which they are formed, stabilized, and transformed. The third section takes up the related problems of narrativization and exclusion, drawing heavily on Bruno Latour and John Edgar Wideman’s metaphors of conta-

gion and contamination—both intimately connected with racial discourses. Sandra Harding and Margaret Atwood supply the primary texts for the fourth unit, devoted to feminist and post-humanist conceptions of science, gender, and social organization. The fifth and final unit will consider the relationship between mathematics, cognitive science, and constructivist epistemology through readings of selected essays on the philosophy of mathematics and Richard Powers' *Galatea 2.2*.

### Objectives

This course has three primary objectives, which can be arranged in order of increasing generality. First, it aims to provide a specific body of knowledge about contemporary literature and its relationships to science studies. Students who complete this course will be prepared to undertake more advanced work in this hybrid area and to begin making their own contributions to it. Second, it provides a basis for further work in the literary humanities, cultural studies, and social sciences generally. It introduces students to methods and critical vocabularies employed in these fields and familiarizes them with the resources commonly used in conducting literary and social scientific research. Third, it seeks to build students' skills in critical and metacritical analysis. A central thesis of the course is that scientific and literary discourses resemble one another to a greater extent than is generally acknowledged; if this is so, the specific skills and techniques acquired in one discipline should be useful in the other, and vice versa.

### Written work and grading

Two papers of ten pages each will be required, one due at the end of spring break and the other taking the place of a final exam. Alternatively, you may write a single twenty-page term paper. In addition, weekly one-paragraph responses and two one- to two-page response papers will be required over the course of the semester. Overall grades will be based on the long papers (35% each, or 70% for a single term paper), response papers (20% in sum), and class participation (10%). *You must satisfactorily complete all assignments to pass the course.*

### Readings

- Margaret Atwood, *The Handmaid's Tale* (New York: Random House, 1998).
- Ludwik Fleck, *Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1981).
- Sandra Harding, *The Science Question in Feminism* (Ithaca: Cornell University Press, 1986).
- Thomas Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996).
- Bruno Latour, *The Pasteurization of France* (Cambridge: Harvard University Press, 1993).

- Richard Powers, *Galatea 2.2* (New York: Picador, 2004).
- Thomas Pynchon, *The Crying of Lot 49* (New York: HarperPerennial, 1999).
- Alain Robbe-Grillet, *Two Novels: Jealousy and In the Labyrinth* (New York: Grove Press, 1965).
- John Edgar Wideman, *The Cattle Killing* (New York: Houghton Mifflin, 1997).

In addition, essays and selections from Karl Popper, Barbara Herrnstein Smith, N. Katherine Hayles, and David Foster Wallace will be available on reserve.

## Policy statements

### Attendance

Two absences, no questions asked. Additional absences will lower your grade.

### Late work

Late work is generally not accepted. If you find yourself in exceptional circumstances, talk to me well in advance of the deadline and we may be able to find an accommodation.

### Collaboration and plagiarism

Talking to other students, especially those in the course, about your ideas is a good thing. Taking other people's words or ideas without attribution is plagiarism and will result in an F for the course, as well as other unpleasantness. When in doubt, cite. And feel free to ask me about specific cases or problems and about the mechanics of research documentation. For references and guidelines, see the MAX Center [guidelines on plagiarism](#) and the Macalester [statement on academic integrity](#).

### Disabilities

Students with documented disabilities who need accommodations or have questions should speak with me directly and contact [Disability Services](#) and the [MAX Center](#).

### Email

Email is a useful tool, but it is not (generally) secure. I will discuss grades and other confidential information over email only if you use encryption software (S/MIME or PGP/GPG). S/MIME is often easier because support for it is already built into most mail clients. Visit the [Thawte Web site](#) to get a free S/MIME certificate and instructions on using it.

## Schedule

WEEK 1 (1/22–26) Welcome and introduction. Fleck

WEEK 2 (1/29–2/2) Fleck, cont. Pynchon.

WEEK 3 (2/5-9)	Pynchon, cont. Popper.
WEEK 4 (2/12-16)	Popper, cont. Kuhn.
WEEK 5 (2/19-23)	Kuhn, cont. Smith.
WEEK 6 (2/26-3/2)	Baker.
WEEK 7 (3/5-9)	Latour.
WEEK 8 (3/12-16)	Spring break. Classes cancelled. Paper I due Mon. 3/19.
WEEK 9 (3/19-23)	Latour, cont. Wideman.
WEEK 10 (3/26-30)	Wideman, cont. Harding.
WEEK 11 (4/2-6)	Harding, cont. Atwood.
WEEK 12 (4/9-13)	Atwood, cont.
WEEK 13 (4/16-20)	Hayles. Philosophy of mathematics. Wallace.
WEEK 14 (4/23-27)	Powers.
WEEK 15 (4/30)	Conclusions and review. Final paper due Sat. 5/5 at 10:00 am.