

Instructor Information:

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Course Information:

HUMS 094
First-Year Seminar
Humanities (Hu) or Writing (WR)
MW 9:00-10:15
Location: LC 208

The Two Cultures: Science and the Humanities

The relationship between the sciences and the humanities has never been a comfortable one. Nearly sixty years ago, C. P. Snow, a British physical chemist and novelist, commented on this uneasiness in his now famous work, *The Two Cultures*. Snow argued that the rift between scientists and literary scholars prevented modern societies from solving many of their problems. But what happens when science and the humanities actually do come together? What might be gained by putting these seemingly disparate ways of understanding the world in conversation with each other? This first-year seminar will consider such questions by looking at several intersections between science and the humanities throughout the twentieth and twenty-first centuries. These intersections include: astrophysics and religion; modern physics and modernist literature; quantum theory and postmodern literature; and medicine and ethics. As this course is meant to be an introduction to these topics, prior knowledge of specific scientific principles or literary movements is not required.

Texts to Purchase (9)

N = novel; D = dramatic work; S = science writing

Note: You can purchase **either** paperbacks **OR** e-books, whichever you prefer. For your reference, below I've listed approximate prices for each version. Any reading that appears on the Schedule of Classes but is not listed here will be provided to you electronically.

- * **Auster, Paul.** *The New York Trilogy* [N]: ISBN: 0140131558 (paperback approx. \$14; e-book approx. \$2)
- * **Edson, Margaret.** *Wit* [D]: ISBN: 0571198775 (paperback approx. \$12; e-book approx. \$10)
- * **Frayn, Michael.** *Copenhagen* [D]: ISBN: 0385720793 (paperback approx. \$15; e-book approx. \$10)
- * **Kumar, Manjit.** *Quantum: Einstein, Bohr, and the Great Debate About the Nature of Reality* [S]: ISBN: 9780393339888 (paperback approx. \$12; e-book approx. \$10)
- * **Lightman, Alan.** *Mr. g* [N]: ISBN: 030774485X (paperback approx. \$16; e-book approx. \$13)
- * **McEwan, Ian.** *Saturday* [N]: ISBN: 000721829X (paperback approx. \$12; e-book approx. \$14)
- * **Sagan, Carl.** *The Varieties of Scientific Experience: A Personal View of the Search for God* [S]: ISBN: 0143112627 (paperback approx. \$20; e-book approx. \$13)
- * **Sanders, Lisa.** *Every Patient Tells a Story: Medical Mysteries and the Art of Diagnosis* [S]: ISBN: 9780767922470 (paperback approx. \$13; e-book approx. \$12)
- * **Woolf, Virginia.** *Mrs. Dalloway* [N]: ISBN: 9780156628709 (paperback approx. \$13; e-book approx. \$6)

Learning Objectives

This course aims to help students:

- * Learn about the history and development of the two cultures debate.
- * Learn about the history and conventions of literary works that grapple with science.
- * Learn to make connections between the sciences and the humanities; between scientific and literary culture; and between texts.
- * Strengthen critical reading and critical thinking skills.
- * Strengthen writing skills, such as: defining and defending a thesis, identifying and incorporating evidence, properly documenting sources, and using feedback to create substantive revisions.
- * Demonstrate knowledge of authors, literary works, scientific principles, and philosophical issues.

Course Requirements

Requirements are designed to assess student success in achieving the course's learning objectives. Students will receive full descriptions of each essay assignment separately. All essays for this class will be argumentative in nature, and we will follow Modern Language Association (MLA) documentation and style guidelines. Because this course carries a WR designation, the majority of our essay assignments will make use of a writing process that includes drafting, feedback and revision.

- * **Essay 1 (10%):** 3-4 pages; choice of assigned topics
- * **Essay 2 (20%):** 5-6 pages; choice of assigned topics
- * **Essay 3 (20%):** 5-6 pages; individually-developed topic
- * **Final Essay (30%):** 8-10 pages; individually-developed topic
- * **Quizzes (5%):** unannounced checks on how well students are keeping up with readings
- * **Participation (15%):** includes contributions to class discussion and completion of small assignments, such as short writing responses

Academic Freedom, Attendance and Lateness Policies

Academic Freedom: This course is animated by the principle of intellectual freedom. It is a space in which we can discuss difficult ideas and alternative views. It offers, in other words, the very thing that a college education should afford—namely, an opportunity to advance your own unique thoughts and claims, however tentative. Take full advantage of it. Be curious; ask questions; challenge your assumptions and ideas; and respect others as they contend with and formulate their own.

Attendance: Because this is a seminar, the attendance and participation of each student is essential to the overall success of the class. Students are expected to attend each class on time and be prepared to fully engage with the course material and with each other. That said, each student is permitted two absences for any reason without penalty. Because quizzes are unannounced, if you happen to miss a class in which I give one, you will be permitted to take an unannounced substitute quiz on future material. In most cases, missing more than two classes during the term will negatively impact your participation grade. The severity of the impact will depend on the frequency of and reason(s) for the additional absences. If you know that you are going to miss a class, please notify me ahead of that class if possible.

Late Assignments: An assignment is late if it is turned in at any time after the specified due date and time. Late essay submissions that are *not* accompanied by a Dean's Excuse will be penalized by an immediate 10% reduction in the overall assignment grade and an additional 10% reduction for every 24 hours thereafter that the essay is late. For more information about Dean's Excuses, consult the [YCPs, Section H. Completion of Course Work.](#)

Yale College Policies and Resources

Plagiarism Policy: Plagiarism will not be tolerated in this seminar. We will discuss integrity in writing and in research and specifically how to avoid unintentional plagiarism. As stated in the [Yale College Undergraduate Regulations](#):

Plagiarism is the use of someone else's work, words, or ideas as if they were one's own. Thus most forms of cheating on examinations are plagiarism; but the term is usually used in reference to papers rather than examinations.

If one uses a source for a paper, one must acknowledge it. What counts as a source varies greatly depending on the assignment, but the list certainly includes readings, lectures, websites, conversations, interviews, and other students' papers. Every academic discipline has its own conventions for acknowledging sources. Instructors should make clear which conventions students must use. In all situations, students who are confused about the specific punctuation and formatting must nonetheless make clear in written work where they have borrowed from others—whether it be a matter of data, opinions, questions, ideas, or specific language. This obligation holds whether the sources are published or unpublished.

Submission of an entire paper prepared by someone else is an especially egregious form of plagiarism, and is grounds for the imposition of a particularly serious penalty, including expulsion from the University.

The Yale Center for Teaching and Learning (CTL): The CTL "supports students across the curriculum as they take ownership of their learning" through "various teaching, tutoring, writing and technology-enabled learning programs distributed across the University." The following CTL webpages provide an overview of resources that would be particularly helpful to students in this course:

- * [Mission and Guiding Principles](#)
- * [Humanities and Social Sciences Tutoring](#)
- * [Undergraduate Writing Resources](#)
- * [Using Sources](#)

Schedule of Classes

I: Astrophysics and Religion

- AUG 28 (W): course introduction
AUG 30 (F): Sagan, *Varieties* (chapters 1 and 2); Lightman, “The Accidental Universe”
SEP 4 (W): Lightman, *Mr. g* (pp. 3-71)
SEP 9 (M): Lightman, *Mr. g* (pp. 72-141); Sagan, *Varieties* (chapter 3)
SEP 11 (W): Lightman, *Mr. g* (pp. 142-212); Sagan, *Varieties* (chapter 6)

II: Modern Physics and Modernist Literature

- SEP 16 (M): Kumar, *Quantum* (prologue, chapters 1, 2 and 3)
SEP 18 (W): **Essay 1 due**; Kumar, *Quantum* (chapters 4, 5 and 6)
SEP 23 (M): Woolf, “Modern Fiction” and *Mrs. Dalloway* (pp. 3-64)
SEP 25 (W): Woolf, *Mrs. Dalloway* (pp. 65-122)
SEP 30 (M): Woolf, *Mrs. Dalloway* (pp. 123-194)

III: Quantum Theory and Postmodern Literature

- OCT 2 (W): Kumar, *Quantum* (chapters 7, 8, 9 and 10); writing workshop
OCT 7 (M): Kumar, *Quantum* (chapters 11, 12 and 13)
Essay 2 due; Frayn, *Copenhagen* (Act 1)
OCT 14 (M): Frayn, *Copenhagen* (Act 2 and postscript)
OCT 21 (M): Kumar, *Quantum* (chapters 14 and 15); Auster, *NYT (Ghosts*, pp. 131-192)
OCT 23 (W): Auster, *NYT (City of Glass*, pp. 3-71)
OCT 28 (M): Auster, *NYT (City of Glass*, pp. 72-130)

IV: Medicine and Ethics

- OCT 30 (W): Sanders, *Every Patient Tells a Story* (intro, chp. 1 and 2); writing workshop
NOV 4 (M): Edson, *Wit* (read the whole play)
Essay 3 due; Sanders, *Every Patient Tells a Story* (chapter 5)
NOV 6 (W): McEwan, *Saturday* (chapters 1 and 2)
NOV 13 (W): McEwan, *Saturday* (chapter 3)
NOV 18 (M): McEwan, *Saturday* (chapter 4)
NOV 20 (W): McEwan, *Saturday* (chapter 5)
DEC 2 (M): writing workshop
DEC 4 (W): course wrap-up
- DEC 13 (F): Final Essay due by 5:00pm**