

Honors 399: How to Think About Weird Things
The Philosophy of Science and Pseudoscience
Fall 2009

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<http://www.uah.edu/colleges/liberal/philosophy/heikes/H399/H399.html>

Course Texts: *How to Think About Weird Things*, Schick and Vaugh (5th Edition)
Introductory Readings in the Philosophy of Science, ed. Klemke, Holinger, Rudge, and Klein

Course Description and Goals:

How to Think About Weird Things exists at the intersection of critical thinking, philosophy, and science. The general premise is that although we humans seem compelled to ask the question “why?” many of us are not all that skilled at coming up with appropriate answers to the question. In particular, we often decide to believe in paranormal phenomena, ESP, UFO sightings and alien abductions, astrology, “miracle cures”, and so on. Despite the fact that we are told these things are unsupported by science or, even worse, are downright pseudoscience, we still choose to believe them. So, one of our primary goals will be to have you learn how to think, broadly conceived, by focusing on rather weird types of phenomena and beliefs that exist at the fringe of our cultural tendency towards scientism. Throughout the course, we will deliberately mingle of theory and application.

While our primary text is *How to Think About Weird Things*, we will also address questions concerning the nature and role of science and concerning how we should think about science. While there are clearly no single, correct answers to any of these questions, there are answers that are better and worse. Throughout the course we will discuss contemporary theories about science as well as the general criteria for what makes something a science. By the end of the course, then, you should be able not only to think clearly about science but also be able to say something about what makes a discipline genuinely a science.

Requirements:

Weekly Essays (60%) : These will be short essays (2-3 pages) that will alternate between material from *How to Think About Weird Things* and material from *Introductory Readings in the Philosophy of Science*. In the case of the concrete cases from *Weird Things*, you will be asked to write on this material prior to class discussion. For the *Philosophy of Science* readings, you will be asked to write on previously covered material.

Paper (30%): Due Dec. 2. This will be a 8-10 page paper on a topic of your choosing, although your topic must be approved in writing by November 4th. (I will not grade papers on topics that have not been approved.) This paper should cover material discussed in class, and must include both a theoretical and practical component (that is, it must utilize theories of science as well as a discussion of some particular pseudo-science).

Attendance and Participation (10%): This includes coming to class, reading the material prior to class, bringing in articles and cases for class discussion when asked to do so, participating in class, and turning your essays in on time. Given that this is a one day a week class, attendance is especially important. You will be allowed one absence, but each further absence will count against your final course grade. Each missed class will lower your final class average by one point.

Expectations and Assessment:

This course is one that covers critical thinking and philosophy of science, but it assumes a background in neither area. This course assumes only a basic knowledge of science and an interest in understanding the foundations of science. Since critical thinking concerns the correct rules for reasoning and for critically evaluating arguments, you will be asked not only to know the standard rules of logic that we cover but also to demonstrate that you can apply these rules in analyzing arguments. In addition, philosophy is a discipline the emphasizes clarity of thought and expression. It is further a discipline that demands reasons for one's conclusions. As a result, the assignments in this course will ask you to demonstrate the ability to clearly articulate ideas and to formulate arguments for your own conclusions. You will be expected to clearly articulate problems and to critically respond to the arguments given by the philosophers we read. You need not agree with everything you read, but you should be able to respond intelligently about why you agree or disagree with the various views we discuss.

Course Outline: (This is a tentative schedule. The exact due dates for readings will be announced in class. As the class progresses, we may make changes in this schedule. I will announce these changes in class.)

	<i>How to Think About Weird Things</i>	<i>Intro. Readings in Phil of Science</i>
Weeks 1-2	Ch 1, Intro: Close Encounters with the Strange Ch 7, The Search Formula (pp. 228-335) Ch. 3, Arguments: Good, Bad, and Weird	Popper, Science, Conjectures and Refutations (38-47) Thagard, Why Astrology is a Pseudoscience (66-75)
Weeks 3-4	Ch 7, UFO Abductions (pp. 244-257)	Quine and Ullian, Hypothesis (404-414) Maxwell, The Ontological Status of Theoretical Entities (363-373)
Weeks 5-6	Ch 2, The Possibility of the Impossible Ch 7, Communicating with the Dead (pp. 257-265)	Hume, <i>Enquiry Concerning Human Understanding</i> , Parts IV, V, VI, and X --see class webpage for link to reading
Weeks 7-8	Ch 5, Looking for Truth in Personal Experience Ch 7, Near Death Experiences (pp. 265-280)	Hanson, Observation (339-351) Stace, Science and the Physical World (352-357)
Weeks 9-10	Ch 4, Knowledge, Belief, and Evidence Ch 7, Ghosts (pp. 280-288)	Giere, Justifying Scientific Theories (415-434) Frank, The Variety of Reasons for the Acceptance of Scientific Theories (465-475)
Weeks 11-12	Ch 6, Science and It's Pretenders Ch 7, Homeopathy, Dowsing (pp. 235-244)	Kitcher, Believing Where We Cannot Prove (76-98) Kuhn, Objectivity, Value Judgment, and Theory Choice (435-450) Putnam, What Theories are Not (333-338)
Weeks 13-14	Ch 8, Relativism, Truth, and Reality Ch 7, Conspiracy Theories (pp. 288-300)	Putnam, Why Relativism is Inconsistent (pp. 119-124 of <i>Reason, Truth, and History</i>) - -see class webpage for link

Miscellaneous Information:

Turn off all beepers, cellular phones, etc. before class, and under no circumstances should you answer your phone in class!

I reserve the right to alter any or all of the portions of this syllabus, at my sole discretion, at any time. Any changes will be announced in class.

Any student who has a disability that prevents the fullest expression of abilities should contact me as soon as possible so we can discuss class requirements.

Academic misconduct (plagiarism, cheating, etc.) will result in no credit for the assignment in question. Depending on the circumstances, I may also refer cases of academic misconduct to the University Judicial Board. Academic misconduct is a serious matter, and it will be treated as such. Keep in mind that plagiarism, in general, is using someone else's words or ideas as your own (even if you paraphrase those words or ideas you must credit the original author). For further definition see the *UAH Student Handbook*.

UAH is committed to the fundamental values of preserving academic honesty as defined in the Student Handbook (7.III.A). The instructor reserves the right to utilize electronic means to help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review to Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents. The terms that apply to the University's use of the Turnitin.com service, as well as additional information about the company, are described at www.uah.edu/library/turnitin.