

## The Mystery of Consciousness: A Syllabus

<https://physics.oregonstate.edu/~stetza/COURSES/ph407h/>

Consciousness poses the most baffling problem in the science of the mind. There is nothing we know more intimately than conscious experience, but nothing that is harder to explain.

David Chalmers

The most important scientific discovery of the present era will come when someone or some group discovers the answer to the following question, how exactly do neural-biological processes in the brain produce consciousness?

John Searle

Consciousness is a fascinating but elusive phenomenon. It is impossible to specify what it is, what it does, or why it has evolved. Nothing worth reading has been written on it.

Routledge Encyclopedia of Philosophy

Think of all your loves and desires, all your memories and everything that makes you a unique individual existing through time. All this arises from your brain, three pounds of wrinkled grey meat. Operating at full capacity, it consumes about 12 watts of power, as much as a dim light bulb. How is this possible? The short answer is that we just don't know. Part of the problem is the brain's vast complexity. We have as many neurons as there are stars in the galaxy, as many dendrites as there are leaves on all the trees in the Amazon rain forest. There are some promising lines of investigation however. We understand the physiology of neurons and know, at least in outline how vision comes about. There are computers with the architecture of neural nets that can perform some of the tasks of human intelligence. Functional MRI allows us to "see" where various thought processes take place in the brain. Philosophers have wrestled with the mystery of consciousness at least since Descartes in the 17th century. They have shown us, if nothing else, how subtle and difficult it is.

This is a subject that encompasses philosophy, neuroscience, computer science and physics. As such there is no one book that "tells you all about it." All the books on consciousness – and there are a lot of them – tell about the subject from the point of view of the writer's specialty. It is my goal in this course to give you a bird's eye view of the subject. To this end I will be giving

a series of lectures on a wide range of material. I would also like you do three mini-research projects. On the course web page you will find three folders labeled, not very inspiringly, Weeks 1-3, Weeks 4-6, and Weeks 7-10. Each folder contains three or four projects. Choose *one* assignment from *each* folder. They will ask you to read an important paper or chapter and thoughtfully answer several questions. Some of this material will be available on the website, some can be downloaded from the internet, and some can be found in reserve books in the library. Please do not put these assignments off until the end of the quarter! The first assignment is due at the end of week 3, the second at the end of week 6, and the last is due at the end of the quarter.

I'm an experimental physicist and as such I always feel a bit apologetic talking about philosophy. Philosophers usually can't rely on experimental data to resolve disputes. (There are some exceptions.) I like to think of a rational argument as a sort of industrial machinery. You put in the raw material and out comes the finished product, but the finished product is obviously made of the raw materials. In the case of philosophy, the input is often the individual philosopher's intuitions. You as conscious entities have intuitions which will be relevant and valuable for our discussions. Don't be bashful! Help us sort out these philosophical issues when it comes time to discuss them, and don't be hesitant about including your own insights in your research reports.

I know that students get concerned about grades; in this course the grading policy is straightforward. The default grade is an A. The way to get a not-A is to not take the course seriously. I expect you to come to class, turn in thoughtful assignments on time, and participate in class discussion. I know that you are busy people and sometimes exceptions must be made. Just let me know when a conflict arises.

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