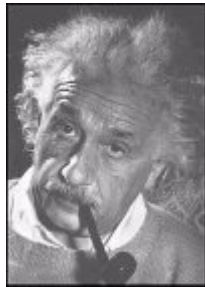


Space and Time

Philosophy 192D

and Liberal Arts 205

Spring semester 2007, Prof. Dowden



Einstein

Catalog description: Introduction to significant philosophical issues involving space and time. An investigation into the current state of these issues. Note: No background or work in mathematics or physics is required. Prerequisite: 6 units in philosophy or instructor permission. 3 units.

Grades for LibA 205: one homework assignment (15%), midterm exam (20%), five-page paper (15%), eight-page essay (25%), and comprehensive final exam (25%).

Grades for Phil. 192D: one homework assignment (20%), midterm exam (25%), eight-page essay (25%), and comprehensive final exam (30%).

- Homework due Feb. 22.
- Paper (LibA 205 only) due Mar. 22.
- Midterm on April 10.
- Essay due May 8.
- Final exam on May 22, 2007, 12:45pm

Depth of philosophical insight, accuracy, and quality of argumentation are the paramount factors affecting the grades, but English writing skill is also a significant factor. All exams are open book.



Textbooks: There are two required textbooks: *Travels in Four Dimensions: The Enigmas of Space and Time* by Robin Le Poidevin, and *Introducing Time* by Craig Callender and Ralph Edney (any edition). The new third edition of the Callender book is due to arrive soon at the university bookstore, but used earlier editions are available from amazon.com. Handouts that are distributed in class, plus some Internet pages will be required reading.

More detailed course description: This is a course in metaphysics and the philosophy of science which focuses on issues involving space and time.

Here are four examples of those issues:

- If you were to remove all the material from all of space, would empty space still be left, or would nothing at all be left?
- Time appears to have an arrow, to "unfold" in a direction. Why? If that arrow reversed direction in some far off corner of the universe, would the

people there walk backwards up steps while remembering the future?

- In order for you to reach out and touch your computer's monitor, some philosophers claim that you have to complete an infinite number of tasks, namely reaching each of the actual infinity of points of space between your hand and the monitor. Do you have enough time to complete an infinite number of tasks?
- What features of space and time are mere contingencies rather than the necessary outcomes of the deepest laws?

These and our other issues will be placed in historical context, but they won't be covered in chronological order.

The course's historical range is broad. For example, we will examine the views of the ancient Greek atomists who invented the concept of space, and we will investigate the oldest metaphysical problem in European philosophy, the problem of change. However, we will also consider the impact of 21st century theories of quantum gravity on our civilization's current understanding of space and time. The relevant scientific theories, such as Einstein's theories of relativity, will be introduced as needed, but only informally.

Schedule of Topics and Assignments: The schedule of weekly reading assignments and course topics is [here](#).

First Reading Assignment: Read pages 4-21 of Callender (page numbers are for the 2001 edition). Pay attention to the cartoons and graphics. Then read chapter 1 (pages 1-12) of *Travels in Four Dimensions*, during the first week.

Instructor: Prof. Bradley Dowden. My office is in Mendocino Hall, room 3022. My weekly office hours will be announced at the first class meeting. Feel free to stop by at any of those times. If those hours are inconvenient for you, then I can arrange an appointment for an alternative time. Also, you may send me e-mail at dowden@csus.edu or call my office at 278-7384 or the Philosophy Department Office at 278-6424. The fastest way to contact me is by email. My personal web page is at <http://www.csus.edu/indiv/d/dowdenb/index.htm>



Dowden

Late work, and make-up assignments: I realize that during your college career you occasionally may be unable to complete an assignment on time. Late homework is accepted with a late penalty depending on how late it is. No late work is accepted after the answer sheet is handed out [even if you're not in class that day]. If you completely miss an assignment, but have what you consider to be a legitimate excuse [I was ravaged by aliens from Venus; the dog ate my homework; etc.] then contact me as soon as you are able. If you provide me with a good reason for missing an assignment, then I'll use your grade on the final exam as your missing grade. There will be no make-up tests nor make-up homework. Class attendance is not required, and missing class does not affect your grade directly.

Student outcome goals: The goal is for you to acquire a broad understanding of the major philosophical issues that involve the nature of space and time. You will know what is controversial about various important claims that have been made, and you will be able to carefully express and to defend your own views on these topics.

PROF. DOWDEN / PHILOSOPHY DEPT. / CSUS
Updated: Jan. 31, 2007