

Philosophy 595C: Philosophy of Cosmology  
Spring, 2015  
Monday 4:00-6:30 in Bartlett 374  
Instructor: Phillip Bricker  
Office: 370 Bartlett Hall  
e-mail: bricker@philos.umass.edu  
Course website: [blogs.umass.edu/bricker/teaching/phil-595c-philosophy-of-cosmology-spring-2015/](http://blogs.umass.edu/bricker/teaching/phil-595c-philosophy-of-cosmology-spring-2015/)  
Office Hours: Wednesday 2-4, and by appointment

**Course Prerequisites.** Three previous philosophy courses.

**Course Requirements.** Four 2-3 page writing assignments on the readings, each worth 10%. Class participation worth 10%. A choice between a take home final exam or a term paper, about 15 pages; it is worth 50%.

**Readings.** All readings will be put on my course website, whose address is above. This includes a pdf of Brian Greene's book "The Hidden Reality", which will provide most of the scientific background that is needed. The readings are password protected. You can e-mail me for the password.

**Course Description and Schedule.** The exact schedule is not set in advance, but it will probably look more or less like this. First, we will spend a couple weeks on the question, "why is there something rather than nothing?" Then, we will turn to scientific cosmology and discuss the philosophical assumptions, such as the "cosmological principle", that underly it. Then, we will focus for the majority of the course on arguments for parallel universes (the "multiverse"). We will look at arguments from big bang cosmology, inflationary cosmology, quantum mechanics, and maybe string theory with an eye towards the question: is the hypothesis of parallel universes testable? is it scientific? This will lead to a discussion of observational selection effects and anthropic explanations. Then we will focus on the "fine tuning argument" for multiple universes, which will require delving into issues with probabilistic reasoning. At the end of this section I want to ask: do any of these arguments give support to Lewis's modal realism? We will also consider Tegmark's version according to which all universes, including the actual universe, are "mathematical". Along the way, there may be some discussion of cosmology and theology: of whether introducing God as an explanation is a plausible, or better, alternative to multiple universes. Finally, if there is time, we will consider Fermi's paradox (roughly, if the universe is teeming with life, where is everyone?) and the Doomsday argument.

**Plagiarism.** The UMass Amherst Academic Regulations defines plagiarism as follows: "Knowingly representing the words or ideas of another as one's own work in any academic exercise." All cases of plagiarism will be reported to the academic honesty office. The penalty for plagiarism ranges from a zero on the assignment involved (in less severe cases) to an F for the course (in the most severe cases). All students are expected to be aware of the University policies on plagiarism and academic dishonesty.