

## Astronomy 2142: Essay Assignment, Part 2

This is the second piece of the essay assignment, intended to bring out some of the core considerations of the *Number, Nature, Mind* GE theme. The essay assignment overall is worth 10% of the course grade, so this piece on its own is worth 5%. It is due on the final day of class, Monday, April 21.

I had originally planned to have you revise your original essay as part of this assignment. However, I've decided instead to ask you to address a different, shorter question, so you don't need to revise your original version. You should re-read it as preparation.

### Assignment

*Is Newton's theory of gravity right, or wrong?*

I have asked this question of many of my astronomy and physics colleagues, and if pressed, about 1/3 of them answer "right," 1/3 of them answer "wrong," and 1/3 of them refuse to answer. That reaction tells you that this is not a simple question, and the answer has as much to do with what you think it means for a theory to be "right" as it does with Newton's and Einstein's theory of gravity.

Write a short essay with three parts:

1. Make the argument that Newton's theory of gravity is right.
2. Make the argument that Newton's theory of gravity is wrong.
3. Say which of these arguments you find more convincing and why.

Obviously, your essay should make reference to Einstein's theory of gravity as well as Newton's, to the similarities and differences of their predictions, and to the differences in their conceptual description of how gravity works. While you don't have to address it in your essay, you may find it useful to think about the auxiliary question: *Is Einstein's theory of gravity right, or wrong?*

### Expectations

Your essay should be 2-3 pages in length, double-spaced, typed. It should be submitted online via file upload, by midnight on Monday, April 21. Late submissions will be accepted until midnight on Thursday, April 24, but with a half-grade deduction (e.g., B+ to B).

The essay will be graded on the clarity and precision of your arguments and the quality of your writing.