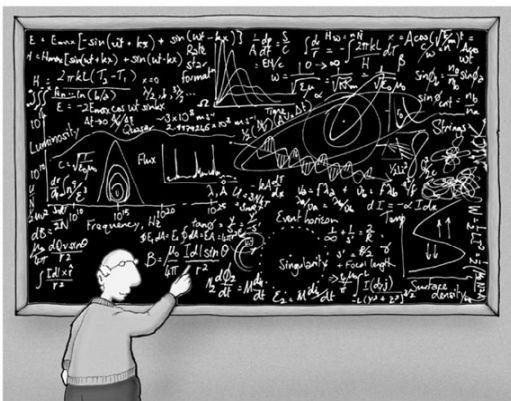


**The Humanities, the Social Sciences,
and Physics Course Options
Department of Physics, Bryn Mawr College
2011-2012**

***I am definitely a Humanities Person (or a Social
Science Person). But Physics seems interesting and
I would like to try it. Is there a course for me?***

Here we are, it's 2011 CE and we don't know what causes mass. We might have a better idea now that the Large Hadron Collider in Geneva, Switzerland is on line. Maybe there are more than three spatial dimensions. Maybe not. We don't know. Quantum uncertainty says the universe is a fuzzy place, general relativity curves spacetime but says the universe is a smooth place. They are completely contradictory. Dark Energy is making the expansion of the universe speed up and we have no clue what it is. And, is our universe the only one? Or are we just one universe in a multiverse? What a great time to do physics!

**"Imagination decides everything"
Blaise Pascal, 1623-1662
mathematician and physicist**



Astrophysics made simple

Cartoon by Nick D Kim,
nearingzero.net.
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The Physics department is offering two half-semester courses and one semester-long course in Fall 2011 which may be of interest to those majoring in the humanities or the social sciences. The first half-semester course is "How Things Work," which looks at how various familiar devices and appliances operate and the physics behind them. The second half-semester course ("The Universe According to Einstein") and the semester-long course ("Modeling the Physical World") will cover partly overlapping topics, and would give a taste of how recent discoveries (and the lack of them) over the last 100 years

or so have resulted in the models that physicists use to describe the physical universe. The semester-long course will cover some set of physics topics from the

O V E R ...

20th and 21st centuries like special relativity, general relativity, particle physics, nuclear physics, and cosmology. The half-semester course will focus on special and general relativity. The *modus operandi* of the two courses are very different, however, and the choice of which one to take depends on whether or not you are a "math person."

***I hate mathematics. I will never take it.
You can't make me. I won't do it!***

You are more than welcome to take "How Things Work" in the first half-semester. It is called P131 if you take it with the lab and P161 if you take it without the lab. In the second half-semester we will offer "The Universe According to Einstein." It is called P132 if you take it with the lab and P162 if you take it without the lab. P131 & P132 satisfy IIL (Division II with laboratory) and P161 & P162 satisfy II (Division II without laboratory). More importantly, both will satisfy your curiosity. None of these options satisfy the pre-health professions requirement or the quantitative skills requirement.

**"It is wrong to think that the task of physics is to find out how Nature is.
Physics concerns what we say about Nature."
Niels Bohr (1885-1962), Nobel Prize in Physics 1922**

***I want to see how mathematics is used in
the development of physical models.***

The semester-long course "Modeling the Physical World," P121, is a mixture of conceptual physics, mathematical modeling, and problem solving. The topics are chosen from exciting developments in 20th and 21st century physics. Mathematics 101 is a co-requisite and calculus will be used extensively. This is a stand-alone, self-contained course on "modern" physics. The physics department feels that the mathematical challenge and the small class size will appeal to many Bryn Mawr College humanities and social science majors who want to bravely go where no woman has gone before. This course satisfies Division IIL and the quantitative skills requirement.

Free Physics Advice!

The physics undergraduate courses adviser is Mark Matlin (mmatlin@brynmawr.edu). Ask any question and he will either answer promptly or invite you to his office or lab for a visit.