

Natural Philosophy from Stonehenge to Gamma Rays

The Almost No Math Physics Class



John Michael Preston

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Philosophy

- Natural Philosophy (physics)
- Metaphysics



Philosophy is the study of the fundamental nature of knowledge, reality, and existence. *It is usually divided into the study of the natural or physical world (physics) and *broader questions of existence, first causes, and the nature of being (metaphysics).

Mathematics: Tool and Barrier

- Galileo, 1600
- Dialog
- Electricity
- Transportation
- Computers
- Nuclear energy
- Medical diagnostics
- Minimum math



*Galileo was adamant that mathematics was necessary for understanding natural laws.

*Apparently, Galileo said this to discourage members of the inquisition from reading the draft of his book, *Dialog on Two Great World Systems*, so they wouldn't ban it. *When the book came out, it had practically no math—it was a dialog between three men. The character who represented the church's point of view was named *Simplicio*. The book was immediately banned, and Galileo put on trial because it became clear that the book was intended for the average person who didn't know math. Unfortunately, this idea that math is necessary became common place and physics is now taught using mathematics as an integral part. This approach is the opposite of Galileo's and excludes most of the public even though we live in a world that depends on knowing the secrets of natural philosophy including *electricity, *transportation, *computers, *nuclear power, and high-energy medical diagnostics.

*As an experienced physics teacher, I have found that average people can understand the big ideas of physics with almost no mathematics.

Almost No Math Physics

1. Astronomy and Plato's problem
2. Natural Laws, the Scientific Method, and the Age of Enlightenment
3. Energy, Gasses and the Industrial Revolution
4. Waves, Electromagnetism, and Communications
5. Behavior of atoms, Chemistry, Computers, and Molecular biology
6. Behavior of the nucleus: energy and medicine

Allow me to prove it to you by signing up for our class, *Natural Philosophy from Stonehenge to Quantum Computers; The Almost No Math Physics Class*. The class sessions will follow the development of physics through history and link the discoveries to the development of western civilization. *(Read bullet points)

Natural Philosophy from Stonehenge to Gamma Rays

(The Almost No Math Physics Class)

- ▶ Wednesday, 10-11:30,
Feb. 15-Mar. 22
- ▶ Riley Center, 176
Lockwood



Take this opportunity to more fully appreciate the course of human history and provide a basis for asking the larger questions of metaphysics. Let's explore the world of natural philosophy together.

References

- Galileo's letter: [Link](#)