

## Lec #1: Forgotten Fundamentals of the Energy Crisis

### TODAY:

- Professor Neff is out of town at a meeting
- We will have a “guest lecture” by Prof. Al Bartlett (U. Colorado) via video
- Discuss this video with your friends over the weekend and come prepared for a vigorous classroom discussion next week

### Next Monday:

- Intro to Course
- Discuss Video
- Mathematics of Growth

EVSS 650 9 JAN 13

## Video: Arithmetic, Population, & Energy

- Prof. Albert A. Bartlett, Dept. of Physics, University of Colorado, Boulder, CO
- started giving this lecture in late 60's!
- published version in 1978 (“Forgotten Fundamentals of the Energy Crisis”)
- public debate much the same now as it was then
- something to think about during video:  
*why is it so difficult to learn these simple lessons?*

## Some Important Points From Video

- The amount added in each doubling cycle is equal to the TOTAL of all that came before!
- Zero population growth MUST happen, either by human intervention or by natural processes
- Bacteria in a bottle double every minute from 11 AM to Noon. For humans, 1 “minute” ~ 35 years (2% growth rate). What do 11 AM and Noon represent?
- ~2% population growth rate --> 7% growth in energy consumption in US! (it's less now)