Reading Assignment for April 29
Sections 30.1 through 30.4

Please notice that this file is two pages long.

30.1 Nuclear Structure

- The material on isotopes is, hopefully, stuff you've learned in a chemistry class. If not, it's pretty straight forward.
- Not all nuclei are stable!
- Atomic Mass - A more convenient mass unit when doing nuclear physics. It's basically the mass of one proton.
- I'll give you a little intro to Einstein's equation so you can understand why the atomic mass unit has a value of $931.5\,MeV/c^2$.

30.2 Nuclear Stability

- Smaller nuclei need an equal number of protons and neutrons to be stable.
- Larger nuclei need a larger number of neutrons.
- The largest nuclei are always unstable.
- More Einstein in the binding energy equation.

30.3 Forces and Energy in the Nucleus

- This is probably more detail than we need in class, but hopefully it will fill in some of the details that I will gloss over in lecture.
- The Strong Force holds the nucleus together.

30.4 Radiation and Radioactivity

- There are three basic phenomena that occur as nuclei try to become stable. These phenomena produce the three types of radiation: alpha, beta, and gamma.
- I'll do all three type of radiation in some detail in lecture. I'll most likely skip over the more "exotic" types of beta decay. (Beta-plus decay and electron capture.)

THE QUIZ IS AT: www.masteringphysics.com/site/login.html