Post-Lecture #3: Modes of Radioactive Decay I

1. Provide the reaction equation for F-18 beta decay with standard nuclear notation for all applicable elements. Use Q for the transition energy.

2. What is the significance of neutrinos in beta decay? Specifically, why are neutrinos produced, and what effect does this create that is unique for beta decay?

3. What are the similarities and differences between internal conversion and beta decay?

4. Draw an ACCURATE line of stability graph with atomic number on the X-axis and neutron number on the Y-axis; do so WITHOUT an N=Z line. Shade or otherwise denote the regions where alpha and each type of beta decay would most likely occur. Ensure that your X-axis and Y-axis units are ACCURATE.