Lecture-Level learning goals for *Fragile System – Part I*

UBC EOSC 114, *The Catastrophic Earth-Natural Disasters*

Day 1

- List the main topic modules we will cover.
- Recognize (most of) the instructors.
- Use the i>Clicker system.
- Access content information from the online course notes and from the textbook.
- Use the course web page to anticipate learning goals, reading assignments, warm-up assessments, exams, and other scheduled events.
- Know where to go for help (web FAQs, Vista Discussion Board, ECAC).
- Actively participate with your classmates to enhance your learning

Day 2

- Explain what density is, & how it relates to stratification.
- Explain why disaster scales are based on the Order-of-Magnitude concept.
- Interpret graphs with logarithmic scales.
- Relate natural-disaster intensity to frequency & return period.
- Describe how concentration or dilution of energy relates to disasters.
- Get the disaster info you need from reliable sources.

Day 3

- List the 1st and 2nd most common elements in the earth, ocean, and atmosphere.
- Describe how viscosity and compressibility relate to the phase of matter.
- Be able to diagnose the type of strain by the way a material deforms.
- Explain why gravity is a force.
- List the 5 types of energy, and describe what causes them to vary.

Day 4

- Explain (with examples) how energy conservation applies to natural disasters.
- Describe relationships between force, pressure, stress, strain, energy, and power.
- Describe population growth and explain why it is important for natural disasters.
- Explain how Earth's carrying capacity and overpopulation are related to the fate of the human race, and anticipate your role in it.

Day 5 - Explore Your Background.

- Know more about aspects of the Carl Wieman Science Education Initiative (CWSEI) and active learning.
- Use feedback about warm-up exercises to focus YOUR learning.
- Re-do the background exercise perfectly.
- Become more interested in current, global natural hazards.