

**EVE 486
Public Health**

**Homework #2
Due: 6 September, 2019**

1. Find an academic article that discusses a toxicology laboratory study and summarize it in 3-5 paragraphs. Include the article with your homework submission.
2. An acute toxicity study has been conducted on laboratory rats in an effort to predict human health effects associated with 2 chemicals, XJ-5 and RU-37. Results of the experiment (after forty-eight hours) are provided below.

XJ-5 Dose (mg/kg body weight)	#rats given dose	#dead
0.005	250	0
0.05	239	10
0.5	210	39
5	145	124
50	98	96

RU-37 Dose (mg/kg body weight)	#rats given dose	#dead
0.005	247	0
0.05	252	7
0.5	100	9
5	62	47
50	120	111

- a. What factors (regarding the rats) should have been controlled in order for this experiment to be meaningful?

Assuming that these factors were controlled...

- b. Plot the dose-response curves on the same set of axes.
 - c. How would you extrapolate your curves to the origin? Is this an important consideration?
 - d. Determine LD₅₀ for each chemical.
 - e. Which chemical is more toxic?
3. Comment on the ethics of human toxicology testing. In your comment, explore the issue of informed consent.