**Quiz Intro-1 Cortland Watson**

Part I – Individual Quiz (Before Class)

Part II – Group Quiz (During Class)

1. What are the three decisions to make in any experiment (2 pts)?

What measurement to make (The Response)

What conditions to study (The Treatments)

What experimental material to use (The Units)

1. What is the source of variability we want and the two sources we don’t want (2 pts)?

Variability due to the conditions of interest (Wanted) – dependent variable

Variability in the measurement process (Unwanted) – measurer error

Variability in the experimental material and process (Unwanted) – different subjects

1. Out of the three kinds of variability, what is the type that threatens disaster (2 pts)?

There are three kinds of variability. Planned/systematic that we want, chance-like that we can live with and unplanned systematic variability that threatens disaster. This threatens disaster because they are not planned for and they are not chance. The main threats that arise are chance error and bias.

1. Explain the difference between chance error and bias (2 pts)?

The both of these things are similar in that they prevent the observations from being equal to the truth. The main difference is that chance error is random, while bias is not random. This means that chance error occurs and can show that the sample is different from the truth, while bias pushes us away from the truth and does not allow us to come close to it.

**End of Part I**

1. Were you in class on time (2 pts)

YES

1. (2 pts). You want to test to see which popcorn recipe would give the best taste?

What Measure to Make (The Response) Taste Scale 1-7

What conditions to Study (The Treatments) Recipes

Experimental Material to Use (The Units) People

1. (2 pts). You want to test to see which popcorn recipe would give the best taste?

Variability Due to the Conditions of Interest (Wanted) Different scores

Variability in the Measurement Process (Unwanted) explaining the scoring system incorrectly

Variability in the Experimental Material and Process (Unwanted) people not understanding the scoring system

1. (2 pts). You want to test to see which popcorn recipe would give the best taste?

Planned, systematic variability – the kind we want Scores, popcorn type

Chance-like variability – the kind we can live with controlling and sample

Unplanned, systematic variability – the kind that THREATENS disaster no random sampling, bias